The BEST BUCKLES for ARCTICS
ARE MADE BY
THE WELD MFG. CO.,
41 Lincoln Street, - - Boston.

Aluminum Lasts and Trees for Rubber Boots, Shoes and Arctics. Unshrinkable, Unbreakable, Everlasting.
METAL LAST AND TREE CO.
41 Lincoln St., Boston.

"EUREKA" RUBBER.
SEE ADVERTISEMENT ON PAGES XXIX and XXX.

INDIA RUBBER WORLD

CAOUTCHOUC — HEVEA BRASILIENSIS — DICHOPSIS GUTTA — GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXII. No. 8. JUNE 1, 1900. 35 Cents a Copy. $3.00 Per Year.

SCRAP RUBBER FOR MOULD & PRESS WORK
OUR SPECIALTY.
J. H. STEDMAN & CO.,
200 SUMMER ST., - - BOSTON, MASS.
BOUGHT AND SOLD.

THE ALDEN RUBBER CO.,

BARBERTON RUBBER WORKS,

MANUFACTURERS OF

RUBBER GOODS.

OUR BRANDS,
SOME OF WHICH
ARE HEREIN MENTIONED
WHEN ASSOCIATED
WITH OUR TRADE MARK,
GUARANTEE
FULL VALUE.

ARC

ARC
ARCO
PLYMOUTH ROCK
XL
SUNSHINE
CONQUEROR
INDEPENDENT
SNOWBALL
DUXBURY
LONE JACK.

THIS TRADE MARK GUARANTEES FULL VALUE.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.
Akron Office, Arcade Block—Main Office and Works at Barberton.
Long Distance Telephone, AKRON EXCHANGE No. 999.
Cable Address—"ARCO AKRON."

GENERAL SALES AGENTS:
JOHN H. GRAHAM & CO., 113 Chambers and 95 Reade Sts., New York.
P. O. Box 1042. Cable Address, "GRAHAINES."
Cable Codes—Lieber's, A. B. C. 4th Edition, Western Union.

CHLORIDE OF SULPHUR AND BI-SULPHIDE OF CARBON.
GEO. W. SPEAIGHT,
106 Fulton St., N. Y.

Mention The India Rubber World when you write.

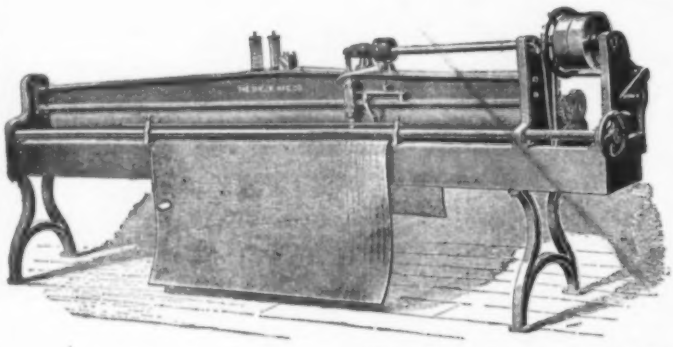
LAMPBLACKS especially for RUBBER MANUFACTURE.
SAMUEL CABOT, BOSTON, MASS.

For Stitching Rubber Belting

HIGHEST AWARD AT COLUMBIAN EXPOSITION.

Machine No. 9-1: For Stitching Two Parallel Rows on Canvas or Rubber Belting.

POINTS OF EXCELLENCE.



1.—Two needles and two oscillating shuttles for forming two parallel lock-stitch seams in heavy canvas and rubber belting up to 100 inches wide and one and one-half inches thick.

2.—Powerful feed-rolls 16 feet long, capable of carrying material of several tons' weight, have a bearing the entire width of the material, thus ensuring uniformity and regularity in carrying forward the several thicknesses and giving elasticity to the stitching.

3.—The mechanical arrangement for raising and lowering the upper feed roller by means of a horizontal shaft extending the entire length of the machine, connected with the hinged bearings of the roller by bevel gears at each end and so operated as to be easily adjusted to any thickness of material.

4.—Largest and strongest sewing machine ever constructed, having a bed eighteen feet in length, with overhanging arm supported by and attached to both ends of the bed.

Machines shown in practical operation at

561-563 BROADWAY, NEW YORK.
1210 CHESTNUT ST., PHILADELPHIA.
192-194 VAN BUREN ST., CHICAGO.
128-132 ESSEX ST., BOSTON.

THE SINGER MANUFACTURING CO.

Offices in Every City.

Mention The India Rubber World when you write.

Forty Years of Skill and Experience

stand behind the "CABLE" goods which are to-day manufactured in accordance with methods originated by the late Wheeler Cable.

Our goods are honestly made, that is why the name "CABLE" on any rubber surface goods is acknowledged as a guarantee of excellence.

CABLE RUBBER COMPANY,

Salesrooms, 28 Essex St., Boston, Mass. **Factory, Jamaica Plain, Mass.**

Mention the India Rubber World when you write

RECLAIMED RUBBER

Mechanical and Chemical.

DANVERSPORT RUBBER COMPANY,

Office, A. ST., So. Boston, Mass.

Mills, DANVERSPORT, Mass.

W. J. CORBETT, Pres't. and Treas.
J. C. WALTON, Secretary.

Address all communications to Boston office.

Mention The India Rubber World when you write.

INDIA RUBBER WORLD
CAOUTCHOUC GUTTA-PERCHA

Published on the 1st of each Month by
THE INDIA RUBBER PUBLISHING CO.
No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON, EDITOR. HAWTHORNE HILL, ASSOCIATE.

Vol. 22. JUNE 1, 1900. No. 3.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.
ADVERTISING: Rates will be made known on application.
REMITTANCES: Should always be made by bank draft, Post Office Order, Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.
DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York Post Office as mail matter of the second-class.

TABLE OF CONTENTS

	PAGE.
Editorial:	
The Future of the Rubber Industry	235
Minor Editorials	236
The India-Rubber Industry in Great Britain.....*Our Regular Correspondent.*	237
[Increase in Cable Insulation. Other Than Rubber Waterproofing. Failure of Pegamoid. Keeping up Rubber Goods Prices.]	
Rubber Requirements of British Railways	239
[Pointing out Differences Between Conditions on the two Sides of the Atlantic.]	
India-Rubber Interests in South America	241
[The "Jebe" Rubber of Peru. More Rubber Coming from Ecuador. Growing Output of Mollendo Rubber. American Rubber Collectors in Colombia.]	
Jottings by the Traveling Editor	243
[Showerproof and Rainproof Goods in the Mackintosh Trade. "Naphtha Daze." Imitation, Legitimate and Otherwise. Factory Secrets.	
Gutta-Percha Supply and the Pacific Cable	244
[American Facilities for Cable Building. The Reported "Corner" in Gutta-Percha. Statistics of Gutta-Percha Production.]	
Rubber Manufacturing in Italy	246
[Account of the Important Works of Pirelli at Milan.]	
Rubber Planting Experiences in Nicaragua.....*George L. Bittinger. F. D. Bittinger, M. D.*	247
[With Illustration.]	
New Goods and Specialties in Rubber (*Illustrated*)	249
["The "Resilia" Shoe. The "A-grip-a" Rubbe Heel. "The Hunter"—A New Banigan Shoe. The "F. and F." Fire Nozzle. The New "Vacation" Shoe. The "Perpetual" Rubber Pedal Tread. New Pocket Atomizer. Hawthorn's Standard Tire Valve New Brunswick Thick Tread Tires. New Line of Light Weight Rubbers.]	
Recent Rubber Patents [American and English]	252
Heard and Seen in The Trade.....*The Man About Town.*	253
[Automobile Tire Problems. What a Manufacturer and an Importer Say About Crude Rubber Prices. Importers and Rubber Planting.]	
Annual Meeting of the United States Rubber Co	254
Rubber Scrap in America and Abroad.....*A. B. C.*	255
Rubber Companies in Litigation	256
New Trade Publications	256
The Obituary Record (*with Portrait of William Erskine Bartlett*)	257
Some Wants of the Rubber Trade	257
Miscellaneous:	
New Rubber Factory in Indiana	236
A Little Book on Charles Goodyear	240
Rubber Planting Notes	242
American Rubber Goods Exports	251
Rubber Cable for the Philippines	257
News of the American Rubber Trade	258
Review of the Crude Rubber Market	261
Statistics of the Rubber Movement	263

THE FUTURE OF THE RUBBER INDUSTRY.

AFTER a marked improvement in general business such as has been experienced in the United States during the past two years, and during the pause that always follows, the thinkers in any branch of industry are prone to try to pierce the future and forecast the changes that are liable to occur in their particular line. This is due partly to commercial sagacity, and partly because so many revolutions have occurred in various trades since our civilization has become so thoroughly industrialized that there is a feeling that any business may see its overturning through some apparently simple discovery, either in mechanics or in chemistry. No branch of the India-rubber business can be said to be so perfectly known, so thoroughly organized, or so necessary that fifty years from to-day it may not be absolutely a thing of the past.

Perhaps a minor illustration of this may be cited in the rise and fall of the rubber jewelry business which many rubber men now living will remember. This vulcanite jewelry of course was not a necessity, and never approached any of the staple articles in its sale. At the same time, it was largely manufactured and very generally sold, and many who were makers of it believed it to be a product that had come to stay. It would, however, be a difficult thing now to find even the smaller bits of vulcanite jewelry in either a rubber or jewelry store to-day. As the manufacturers of rubber jewelry found it impossible to forecast the future in their particular line, so it is equally futile for even the wisest to absolutely say what their business will be even ten years from now.

The great divisions into which the manufacture of rubber has been segregated bear to-day the probability of permanence. Take the manufacture of rubber boots and shoes, for example. This is a business that has grown slowly and now assumes very large proportions. Unless some radical and far reaching change occurs in leather footwear, it will not only continue, but will be greatly augmented both in our home markets and in the markets that are growing across the seas. There is, to be sure, a possibility of an internal revolution in the manufacture of rubber boots and shoes which may come either through a revolution in compounding processes, or in machines that will do away with so much hand labor. None of the experimenting or inventing that has characterized the last dozen years, however, points toward an early change in these parts. In the line of footwear, come rubber soles and heels, the use of which is already assuming proportions far beyond what was predicted for them. Whether these things have really come to stay is still a question. Certain it is that the general use to which these goods have been put, has been a surprise to the trade, and it may be that they have really become a permanent part of footwear equipment.

In mechanical rubber goods—the most interesting part of the rubber business to-day—there is ever a procession of changes. New specialties, particularly in molded goods, are constantly coming up, occupying certain fields and in turn being dispossessed by others. In staple goods, such

as belting, for example, there are those who confidently predict that the time will come when the rubber belt will be no more, its place being taken by belts treated by products cheaper and better than rubber for the purpose. However good a product may be, however, it will be long before the rubber belt can be entirely driven out, as its usefulness is so marked for very many purposes. Railroad men make no secret of the fact that they do not expect that rubber air brake hose will be used ten years from now. They say that, whether electricity or steam dominates the traction of the future, the electric brake with its connecting links of insulated wire is bound to come into use. As a matter of fact, if both belting and air brake hose were taken out of the rubber industry, the field is so large, and other specialties are so rapidly coming to the front, that it is a question if the business would feel it as seriously as many suppose.

Until recently double texture goods, in spite of the increasing use of rainproof fabrics, have grown steadily; indeed, double texturing has gone into so many different lines that the proofers to-day consider the manufacture of mackintoshes as only a portion of their field. Just what will happen when the ideal rainproof garment is discovered, no man can confidently predict. It is quite likely, however, that the double texture mackintosh will continue to be worn as long as rain continues to fall on the just and the unjust. There is a possibility, too, that a counterpart of the once popular rubber surface gossamer will again come into vogue and be very generally used.

The insulated wire business still uses a great deal of India-rubber, and doubtless will continue to, in spite of the growth and popularity of paper insulation. The great change predicted for insulation will come probably in the production of some ductile material that is cheap and plenty, and that will take the place of Gutta-percha for both aerial and submarine work. Many electrical engineers and others believe that they have secured this, but so far Gutta-percha for cable work has the field. It is quite probable, however, that the next decade will see a new material in use. In the same way it is possible that hard rubber may be replaced, although celluloid and the various cellulose compounds that have aimed to take its place have thus far fallen far short—in many lines of work—of the many excellencies that vulcanite shows.

In druggists', stationers' and surgical sundries, there is little chance of any revolution. This business, like the mechanical goods business, is ever taking on new specialties and dropping old ones. The electrical foot warmers, however, do not take the place of hot water bottles, nor does paper twine take the place of elastic bands. Indeed, the business as a whole shows a healthy and steady increase, and a tendency toward better goods and toward broader markets, that is most encouraging.

The newest of all the large divisions in the rubber industry is the tire business. Its most interesting feature today is the automobile tire. In spite of many tests, there seem to be a few who are to day willing to select the tire that is in all respects perfect. Within the next year, however, when the results of many tests now under way are made known, much more light on this subject doubtless will be shown. In carriage tires and cycle tires, there are many in the market to-day, and now that this business has lost its mushroom qualities, there should be a steady and wholesome growth in it. Taken as a whole, therefore, the rubber business has before it a very considerable growth in which all of the different lines have a part.

The question of prices will, of course, always be one of moment, whether crude rubber remains a speculative commodity or not, but the friendliness that different manufacturers in the same line are showing toward each other, and the common sense which to-day characterizes their dealings, one with another, more than ever are a promise of satisfactory business such as the trade has never before possessed.

IN THE DEATH OF WILLIAM ERSKINE BARTLETT, managing director of the North British Rubber Co., Limited, the rubber trade of the world loses a notable figure. He was of American parentage, but for the last twenty years lived in Edinburgh, and was known everywhere as the efficient head of the great company whose factories are located in that city. An exceedingly kindly man he was still a rigid disciplinarian and went under the appreciative cognomen of "King Bartlett."

TOKIO, JAPAN, BIDS FAIR in the near future to be the center of rubber manufacture for the Orient. The incorporation of the Oriental Rubber Co., in that city for 300,000 yen was chronicled in these columns but a few months ago. To-day comes the news of a second rubber factory that is now building, the capital of the owner being put at 30,000 yen. The lines of manufacture thus far undertaken are mechanical goods and insulated wire.

PESSIMISTS IN THE TRADE are quite serious over the outlook for a profitable future for mackintoshes, but it is safe to assume that a business that grew in a healthy way and that fills a decided want in the world is not to be blotted out in a moment. The reaction after a period of high prices and prodigal buying is always unpleasant, but it is bound to come and it lasts only until the market rights itself, which it is bound to do in mackintoshes as well as other lines.

IN SPITE OF THE DISTRUST with which substitutes are viewed by many, it is but fair to those who have worked so hard to bring out something of value, to report progress. But a few years ago there was not one that could be used alone to manufacture goods that in any way took the place of rubber. To-day, however, there are several that come very close to certain grades of reclaimed rubber in cheap goods. The advance may not as yet be a notable one, but it perhaps points the way to still further development.

NEW RUBBER FACTORY IN INDIANA.

THE Goshen Rubber Co. (Goshen, Ind.) have been incorporated, under the laws of Indiana, to manufacture vehicle tires and mechanical rubber goods; capital, $100,000. The company have purchased a brick building suitable for factory purposes and are equipping it with rubber machinery. The directors of the company are: C. M. Bailey, Marion, Ind.; Alexander McDonell and J. H. Shoemaker, Montpelier, Ind.; H. M. Zehrung, Connersville, Ind.; J. M. Dennis, Cambridge City, Ind.

THE INDIA-RUBBER INDUSTRY IN GREAT BRITAIN.

By Our Regular Correspondent.

THAT the great success of the business of the Insulated Wire Co., of Prescott, Lancashire, has to some extent deprived the makers of rubber insulated cables of their business is well known. That the companies concerned have felt the competition severely and that they recognize that the paper cable has come to stay is evident from a change of some importance that is in progress at several of the works which formerly confined their operations to the rubber insulation only. It appears that there is nothing in the way of a patent about the Prescott company's manufacture, and the paper covered cable is now about to be made by other firms, of which Messrs. Glover & Co., of Salford, the Helsby Telegraph Co., and the St. Helens Cable Co. may be mentioned. A good many points in favor of the paper insulation are now emphasized by the electrical engineers who have charge of the lighting and traction plants now so rapidly extending throughout the large towns in England. An important item is the first cost, the paper being much cheaper than the rubber. Again, whatever may have been the exact cause, there is no doubt that the electric light cables laid in many of our towns five or six years ago have not given satisfaction, and it is expected that the paper insulation will prove of greater durability. There are abstruse electrical points connected with the subject on which I have not any desire to enlarge, but it is evident that the doctors disagree to some extent. For instance, some say that for high pressures, such as 3000 volts, paper insulation is no use, while others tell you that it is perfectly satisfactory and back their assertion by reference to towns where the high pressure system is in use with paper insulation. I understand that in the cases of Manchester and Salford the mains are being in the first case relaid, and in the second case laid, with either paper insulation or by the Callender Cable Co., who use a sort of vulcanized pitch, rubber insulation being entirely ignored. No doubt this fact has had a good deal to do with the determination of the companies above mentioned to take up the manufacture of paper insulation. Messrs. Glover have not yet moved into their commodious new premises in Trafford Park, but will do so shortly. Considerable extensions are in progress at the works of the Telegraph Co., at Helsby, the firm now doing a large business in golf balls, in conformity with the practice of the large cable companies situated on the banks of the Thames.

ELECTRIC CABLE BUSINESS.

IT is generally understood that the failure of Pegamoid Limited, as a business concern is due, not so much to any rooted objection of the public against the material itself, as to the comparatively high price which the company wanted for their goods. The price asked was necessitated by the cost of manufacture, which proved to be much higher than was anticipated by the directorate, the loss of volatile solvents being a serious item. There is now some talk of the manufacture being revived on a large scale owing to the fact that the particular solvents required, ethyl acetate being one of them, are now obtainable at a much lower price than was the case a year or two ago. I also hear rumors of a new company being formed to make a material of a somewhat similar nature to Pegamoid, though no reliable details are as yet obtainable. As regards the validity of the patents which protect, or are supposed to protect, these various nitro-cellulose products, much doubt seems to exist in well informed quarters, and it is in the highest degree probable that should any such nitro-cellulose product succeed in deposing leather to any extent, competitors would arise and successfully prove that their manufacture involved them in no legal obligation to holders of patents for a similar product, and for this condition of affairs the blame rests entirely upon the conditions under which our patent laws are administered.

PEGAMOID.

ALTHOUGH the rubber manufacturers generally have not had anything to do with the cloths known as waterproof, yet porous, the firm of Mandleberg & Co., Manchester, forms a notable exception, as in addition, of course, to their regular rubber waterproof trade, they are now making and selling largely, garments free from rubber but rendered rainproof by a process somewhat analogous to that which has been referred to already in these columns as the Millerain, but not identical with it. As the popularity of this class of goods seems to be decidedly on the increase, it is probable that other of our leading waterproofers will reconsider their determination to let the business alone as being inimical to their best interests. There can be no doubt that where an umbrella is carried as well, this more or less porous cloth is much superior from a hygienic point of view to the rubber goods, but without an umbrella, and especially after a certain amount of friction, these cloths are apt to lose their rain-repellent properties and to become anything but waterproof. The difficulties with regard to the whole question of the best material to adopt for army use have long perplexed our army authorities and the India, office which is more particularly concerned, have not yet finally decided upon any material, though they have paid a good deal of attention to the subject. Personally, I incline to the opinion that however closely woven the texture of the porous cloth may be, it will not approach the rubber garment as regards waterproof properties unless the pores are entirely filled up by the particular chemicals used in its preparation; and when this is the case, its advantages over rubber from a hygienic standpoint will have vanished. Further, although it is contended that rubber goods have but a limited life, it has yet to be shown that any of these non-porous chemically prepared goods will retain their properties longer than, or even as long as rubber when they are exposed to continuous rain without the adventitious assistance of an umbrella, an article which does not usually form part of the soldier's kit.

WATERPROOF YET POROUS.

ALTHOUGH there is nothing very striking to record as the outcome of the association's deliberations, the general opinion obtains even among those who did not cast in their lot with it that it has assuredly served a useful purpose in preventing the cutting of prices in certain classes of goods. The firms who remain outside, notably Warnes, Silvertown, North British, and Spencer, Moulton & Co., have always had their prices for their principal products and have not been in the habit of cutting them down to suit the whim of this or that purchaser. The action of the association in the way of keeping up prices is not likely to cause the principal outsiders to attempt to get extra business by lowering their prices, as they have the reputations of their firms as a primary consideration. Of course, if the association sought to make extravagant profits the case would be different, but there is no reason to suppose that such action forms or is likely to

RUBBER MANUFACTURERS' ASSOCIATION.

form part of its policy, which so far has been dictated by suavity rather than aggressiveness.

NEW COMPANIES LAW.

MR. EMMETT'S bill, which seeks to compel members of private business concerns to register their real names, and where the word company is attached to state the members of the company (if there are any), was received with favor in the House of Commons, and will undoubtedly become law on emerging from the select committee stage. As regards the rubber trade the inquisitive will then be able to learn that they are not likely to find Mr. Macintosh at the well-known Manchester rubber works, however often they may call, and the fact that the near relatives of a prominent cabinet minister are interested in the rubber manufacture will become common knowledge. Not to pursue this light vein, there can be no doubt that the bill will serve a useful purpose in the way of preventing various frauds (of course, I am not here speaking particularly of the rubber trade) which depends largely for their success upon the anonymity of the chief actors.

LEGAL CASE.

THE long protracted dispute between Messrs. Frankenburg and Moseley came to a head on May 3, when the case was called on for trial at the High Court of Justice. However, it was at once stated by Mr. Fletcher Moulton, M. P., Q. C., counsel for Mr. Frankenburg, that the parties had come to terms and that there would be no necessity to try the case. The terms of settlement were not disclosed, so it can only be a matter of conjecture as to which side really made the overtures of peace. The matter to be settled was whether Mr. Frankenburg's patent for the printing of rubber textures with aluminium powder debarred Messrs. Moseley from using it, although the latter were holders of a prior patent involving the process of printing in colors upon rubber surfaces, this patent having special reference to the use of farina. With regard to this process of Messrs. Moseley, it may be mentioned that some years ago they had an action against the Victoria Rubber Co., of Edinburgh, who claimed the use of farina in fixing the colors, though in addition they spread a thin coating of rubber over the printed surface. Messrs. Moseley, however, won their case, and the Victoria company did not appeal to a higher court as they at first intended. No doubt a good many in the trade will be disappointed at the turn the present case has taken, as there are several points about the legality or otherwise of the various rubber printing patents upon which a judicial decision would be desirable. Those who are most interested in the present case are the proofers who are at present paying Mr. Frankenburg a royalty for the use of aluminium powder, because if Messrs. Moseley had established their right to use the process without paying the royalty the firms who are at present paying it would be able to cease doing so at no expense of litigation to themselves. Without knowing the terms of the settlement it is of course difficult to say at present how the position of those firms now paying the royalty is affected.

"FIXERS" IN COLOR PRINTING.

IN a recent number of the *Textile Colourist*, dealing with bronze printing on dress fabrics, it is stated that the "fixers" at present employed in the trade are either albumen or varnishes containing rubber. The rubber paste we are informed is made from pure unvulcanized rubber because the sulphur in the vulcanized rubber would injure the color of the metallic powders. The writer has evidently not taken to heart Pope's line: "Drink deep or taste not the Pierian spring," or he would have let his readers know that there are much more potent objections to making a rubber paste from vulcanized rubber than its mere after effects; if he has overcome the insuperable difficulties that have hitherto stood in the way of making such a paste the details would I feel sure, prove of much interest to the rubber trade. As regards the process of printing upon a rubber paste, I am given to understand that it has been entirely given up as the rubber rapidly decayed and led to trouble.

FIRE.

ON April 21 a serious fire took place at the works of Messrs. G. W. Laughton & Co., at Bradford, Manchester. The firm, which has only been established two or three years, manufactures rubber substitutes, chloride of sulphur, and bisulphide of carbon for the rubber trade, Mr. Laughton before setting up on his own account having acted as agent for Messrs. George Scott & Co., the pioneers of the English substitute trade. It is understood that the works were insured, though not to the full extent, and I should think it was rather a difficult matter to effect an insurance upon this class of business except at exorbitant rates; at any rate this is the case with rubber works where bisulphide of carbon is used.

BISULPHIDE OF CARBON.

APROPOS of this article I am informed by one of the leading makers that the demand from the rubber works is greater at present than it has been for some time past, and that there has been some difficulty in complying with the orders, this being the slack season. The oldest firm in the trade is that of Jesse Fisher & Son, whose works, formerly at Wolverhampton, are now carried on under a new proprietary at Bradford, Manchester. Since the era of dry heat vulcanization came in, two or three other makers in the Manchester district have given up the manufacture as one hardly worth engaging in. In the light of the improved demand it seems evident that the existing strict government regulations with regard to its use in rubber works have not proved quite so impossible to comply with as was confidently predicted. It may be mentioned that in days gone by this liquid was known under the name of Fisher's naphtha, under which title it may possibly be found in antiquated rubber mixing books.

ECCLES RUBBER CO.

THIS firm has turned to profitable account the hero worship which is now so rampant in England and have large orders on hand for hollow painted balls, adorned with the features of the leading generals engaged in the present war. I understand that quantities of these balls are being shipped to the colonies, and no doubt the enterprise which this firm has shown in being first in the field will bring grist to its mill. Although political considerations do not usually enter into business matters, it is possible that in the present state of feeling the Germans might evince a dislike to inprinting the likeness of British generals upon goods made in the Fatherland.

A NEW CYCLE TIRE.

ONE of the newest tires put upon the market is that of the Radax Pneumatic Tyre Co., Limited, whose works are at Blackley, near Manchester. This tire has no wires or hooks, and is generally without any of the complications so often associated with the fixing of pneumatic covers to the rims. The life and resilience of this tire depend a good deal upon the peculiar nature of the closely-woven fabric, and it is claimed for it that it is practically non puncturable. It is satisfactory to see that only the highest quality of rubber is used by this firm, because there is no doubt that the second quality tires which have been put on the market by various firms in the last two years have given rise to a good deal of grumbling and this of course is inimical to the best interests of the trades concerned. This tire is made to fit any of the well-known standard makes of rim, such as the Dunlop, Clincher, Fluess, or Continental type, but it is not adaptable to flat or crescent rims.

RUBBER REQUIREMENTS OF BRITISH RAILWAYS.

SEEING that the requirements of English—or rather British and Irish railways, to use the more comprehensive term—in the matter of rubber goods do not coincide altogether with the conditions in the United States, it may not be without interest to American readers of THE INDIA RUBBER WORLD to have some account of the business which passes between the rubber manufacturers of Great Britain and the home railways. It does not suggest itself as imperative, or even desirable, that statistics should be compiled showing the tonnage of goods sold and delivered, even did facilities exist which could render such a task an easy one, and hence this article may be confined to the nature and quality of the goods in demand, without probing into the mysteries of the contract forms or order books of the railway companies.

By way of commencement may be mentioned the rubber buffer, which, in contradistinction to what obtains in the United States, is, or rather has been, used to such a large extent on the railways of Great Britain. The term "rubber" is used in connection with these goods, but really in the light of the prices which to the knowledge of the writer have been paid on certain railways for such goods, it is perfectly clear that the title is but a courtesy one. Now the different English railway companies act very differently when giving out their contracts for rubber buffers. Some of them have a pretty clear idea of the quality and nature of the rubber they want, and for which they know by experience they will have to pay a good price, while others invite tenders for rubber goods and, on receiving quotations varying from 10*d.* to 4*s.* a pound,* eagerly give the contract at the lowest figure quoted, and pride themselves, rather than otherwise, on their "cuteness" in so doing.

There is, of course, no need to point out to THE INDIA RUBBER WORLD'S readers that the principle of buying in the cheapest market can, with but rare exceptions, only prove disastrous where rubber comes into question, so great is the capacity of this body for adulteration. But there certainly seems to be dire necessity to emphasize the importance of this point on the rank and file of purchasers of rubber goods. Rubber goods which will not do their work are dear at any price, and their inclusion in more or less expensive machinery may easily lead to a good deal of annoyance and expense. It is not to be expected that the lay mind will grasp all the mysteries of rubber mixing, or even to know the difference between "Pará" and "African" as applied to raw rubber, but every buyer of rubber goods on a large scale should have at least some idea of the market value of the raw product when he is comparing the quotations from different firms and making mental observations on the large profits which, in his simplicity, he imagines the sender of the highest tender hopes to make.

* * *

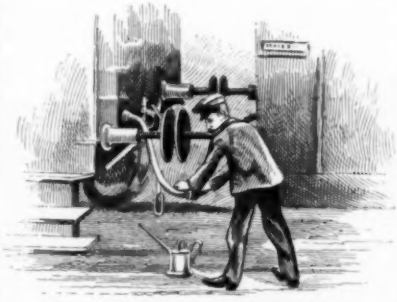
BUT to leave generalities aside, those railway companies who want a good buffer and are willing to pay for it are apt to be a little troublesome in their requirements. They insist that the buffers shall stand certain rather severe tests, and those that fail to come up to the standard are, as a rule, thrown back on the manufacturers' hands. This testing of buffers on a large scale requires the use of a certain machine, a full description of which would take more space than the limits of the present article can afford. But, briefly, it may be said that it is on the principle of the ore stamp, five or six hammers being worked on a cranked axle and striking blows on as many buffers. The tests consist of any number of blows up to 10,000, the object being to see what variation, if any, has taken place in the superficial dimensions of the buffer by reason of the strain to which it has been subjected. A good buffer will measure the same after as before the test, though one which is wanting in elasticity or is badly vulcanized will be found to have sustained a permanent set. This test causes the rubber manufacturer much searching of heart, as it is not at all an easy task to get absolute uniformity in a delivery of several hundred buffers, because, although the rubber is all supposed to be of the same quality, even as it is of the same name, yet as all practical rubber men are aware, certain unaccountable differences often reveal themselves after vulcanization.

This inequality in goods vouched for by the rubber manufacturer as being made in the same way from the same materials, has been the chief cause of the partial revulsion to steel springs which has taken place on British railways. As far as the writer is aware, no serious attempt has been made by the purchasers of the cheap buffer to put it to a severe practical test, though in one instance a remonstrance was made by the purchaser of a shilling buffer that his goods went to fragments under the test which a competing railway employed. Although convinced in his own mind that he was being badly treated, the complainant did not see fit to make any further disturbance when it was brought to his knowledge that his competitor was paying more than three times the price per pound for his buffers. In addition to the test mentioned, another is employed, this consisting of screwing up the buffers between iron plates, under considerable pressure, so as to see if any permanent alteration in form takes place.

* * *

IN connection with the large use of rubber buffers on English railways it is important to draw attention to the well known difference in the construction of railway coaching stock in England and in America. The long car, with the central coupling, which is so universal in the United States, is but little known in England, though it may be said that the new coaches for the recently opened trunk line, the Great Central railway, from the North to London, are built on the American principle as regards couplings. As already mentioned, there has been a partial revulsion to steel springs in place of rubber buffers, and, to judge by the recent action of one important railway company, it would seem that the output and use of the all-rubber buffer is likely to decrease considerably in the near future, if a novelty which is now being tried proves a success.

What is now almost a universal requirement for railways is the continuous brake coupling. The battle of the brakes in England cannot be said to have resulted



RAILWAY BUFFER—EUROPEAN TYPE.

Each passenger carriage and goods wagon is provided at either end with two projecting disks, designed to play upon each other and thus prevent the cars from coming in collision, instead of the cars being held apart, as in American trains, by the coupling device. Each of these buffers involves in its construction a disk or cushion of India-rubber.

* Practically 20 cents and $1 a pound.

in the survival of one to the extinction of others, but practically at present there are only two brakes at all largely used—the automatic vacuum and the Westinghouse. Of these the first is the more largely used, although, owing to the running of through trains from one company's system to another, it is now very common to see passenger coaches fitted with both vacuum and Westinghouse brakes, which, of course, is all to the benefit of the rubber trade. As a rule the rubber pipe of the vacuum brake is covered with a layer of hemp to protect it from adverse influences, and the Westinghouse pipe has generally a loose canvas sleeve for the same purpose. The opinions of locomotive engineers differ as to the utility of this sleeve in the case of the Westinghouse brake, one prominent engineer stating that he had discarded it altogether on his line, as it did not really protect or preserve the rubber, while it made it impossible to detect any incipient defects. Still the general rule is to cover the pipe with tarred canvas, and it certainly seems that some protective covering is advisable, as exposure to the sun's rays or to the grease of shunters' hands can but have an injurious influence on the life of the rubber.

Speaking of the life of the rubber, introduces the rather vexed question as to how long such brake hose should be expected to remain in a sound condition. Some English rubber manufacturers give a guarantee of three or four years, and so keen is the competition that they all wish to obtain a reputation for longevity in case repeat orders are not forthcoming. Other manufacturers, however, give no guarantee at all, and this may be taken as the rule rather than the exception. So much depends on how the hose is used; for instance, the pipe on the front of an engine will last three or four times as long as that on the tender, where the continual coupling and uncoupling provokes a serious tendency to crack and break at the bend where it is connected with the metal pipe.

* * *

ANOTHER rubber requisite, and one closely connected with what has been discussed above, is the diaphragm for the vacuum brake chamber. This is very similar in general appearance to a soft "wide-awake" hat, but with an exaggerated brim, and is made of good quality vulcanized rubber. Inferior quality diaphragms have at times caused considerable trouble, as they are not examined regularly like outside hose pipes, and no warning is therefore given of any latent defects. A special article connected with the vacuum brake is the rubber gland, or packing material, this being made of such a nature to act as a lubricant.

The next article on the list is the rubber body block, as it is called, and which is placed between the frame and the body of the passenger coaches to lessen vibration. These are rectangular blocks of compounded rubber with a center slot, and have the common dimensions of $5 \times 3 \times \frac{3}{4}$ inches. There is nothing about their employment which seems to call for special mention, nor need the small knobs of rubber which are affixed outside the framework of the coach to deaden the impact of the door when swung open be referred to at any length.

* * *

ONE may pass on, therefore, to the subject of the hose which is used in connection with the modern method of warming passenger trains by live steam from the engine. Here a good deal could be said, for in one way or another considerable trouble has been experienced by the railway companies in connection with this article. Perhaps they did not exercise enough care in getting a really good quality of rubber, and perhaps the idea that rubber ought to be as lasting as wood or metal was not wholly absent from the railway engineers' minds. As rubber proved unsatisfactory, it was sought by one prominent company to replace it by flexible copper piping, but the liability to break at critical points proved a bar to its regular adoption. No doubt better results could be obtained with rubber hose in many cases if proper care were taken not to overheat it. It is the general rule to pass the steam from the engine through a reducing valve, a rule which is not always strictly attended to, nor is the amount of reduction as regards temperature the same with the different companies, a fact which goes a long way to explain the divergence of opinion as to the value of rubber hose among the locomotive engineers. A grumbler confessed that the steam entered the hose at 80 pounds pressure and sometimes at 120 pounds, while an engineer who expressed himself satisfied with the work of the hose he was using said that he never allowed the rubber to be subjected to more than 40 pounds pressure, the reducing valve being strictly attended to.

These facts speak for themselves and require no comment, and it is safe to say that as the proper way to use the hose becomes more generally known among locomotive engineers, and if due care is taken to buy a really good quality, there will be but little reason to complain of rubber hose in the future. An important point, however, in regard to the life of such hose is the treatment it meets in practice. The screwing up of the metal connections may be performed with care or otherwise, and where a twist is given to the rubber the latter often cracks and becomes useless. Talking on the subject recently to a prominent railway official, the writer was informed that, although steam at 70 pounds pressure was used, the trouble experienced with the tubes arose from the damage done in coupling up much more than from any inherent weakness of the rubber itself. Evidently, then, until the rubber can be assured of better treatment, any great improvement in its quality as suggested above, will not put an end to the trouble which is now associated with its use, though it may mitigate it.

* * *

THE last article to which reference need be made is the thick corrugated sheet of rubber now used by one or two of the leading British railways at the sides of the passage leading from one coach to another in the corridor trains. This is a modern application of rubber, and seems to be more popular in England than the tarred canvas which is found so generally used on the Continent. From what it has been possible to gather by casual inspection, the rubber soon deteriorates from exposure to the varying conditions of the atmosphere.

A LITTLE BOOK ON CHARLES GOODYEAR.

FROM St. Paul, Minn., comes a booklet of 32 pages entitled "Life of Charles Goodyear, Inventor of the Process of Vulcanizing India-rubber, Published by the Goodyear Rubber Co.," in which is comprised, in an interesting style, the salient features of the work done by this famous inventor in building the foundation of the India-rubber industry. Several illustrations add to the interest of the book. It is a very appropriate production by the company issuing it, for the reason that Charles Goodyear put his patent in the Naugatuck Rubber Co., except some few rights he had previously sold. The Naugatuck sold all their rights to the Union India Rubber Co., who were practically succeeded by the Goodyear Rubber Co. Copies of the book doubtless can be obtained on application to the company.

A COMPANY of Belgian capitalists have bought 1600 acres of rubber lands from the "La Puerta" estate, owned by the Real Estate Company of Mexico, situated on the isthmus of Tehuantepec. The new estate is called the Hacienda de San Leon and has been placed in charge of Alphonse Kemps.

INDIA-RUBBER INTERESTS IN SOUTH AMERICA.

THE "JEBE" RUBBER OF PERU.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We have read with interest the article copied by you [THE INDIA RUBBER WORLD, January 1, 1900] from the "Transactions and Seventh Annual Report of the Council of the Liverpool Geographical Society" referring to the information furnished by Mr. David B. Adamson, H. B. M. consul, on the "Jebe" rubber of Peru. The meager information Mr. Adamson gives is exact in its details, but, from a commercial viewpoint, he has not been well informed, for those of us who know this region practically are convinced that the quantity of Jebe which exists in the east of Peru is sufficient to give employment to a large amount of capital.

Until three years ago the Peruvian rubber collectors occupied themselves only in the extraction of Caucho, an operation which they effected by completely destroying the tree and extracting the sap, even from the roots. The result was the complete extinction of the tree at the more easily accessible points, trees remaining only in those places which are commercially inaccessible because of the lack of ways of communication. This caused the gatherers to turn their attention to Jebe, which was found in abundance along the banks of the rivers and near the commercial centers, and many of the Caucho gatherers devoted their time to the exploitation of Jebe, while the more intrepid went in search of the more lucrative Caucho.

The Jebe rubber tree is found in groves, and the gatherers mark off with a path a number of trees, to which they give the name *estrada*, and there are *estradas* containing as many as 200 trees, the greatest number that one man can look after. The extraction of the gum is carried on during the months of June to December, the season of the year when the rivers are lowest the sap being caught in small tin cups applied at the incisions. When the sap is gathered it is submitted to the operation called *desfumar*, that is to say, it is coagulated with the aid of the smoke produced by burning the fruit of a palm which the natives call "shapaja." This process leaves the product ready for exportation.

The exploitation of Jebe rubber increases rapidly in this region, and is to-day the principal and almost the only article of export, being, in fact, the article which yields the greatest profit here, and for this reason we must import even articles of prime necessity, paying enormous freight charges on the same.

Jebe is very abundant, indeed, throughout the entire mountain district of Peru, but at the present time it is gathered only in the vicinity of Iquitos, which is the center of the industry. The lack of capital is responsible for the fact that the business does not increase as rapidly as it should considering its importance. All business in this region is done on very limited capital, and the buyers of the gum charge their debtors enormous interest. The capitalist is the one who fares best in the business, as he is protected on all sides. Each year he advances to the producer, in merchandise at high prices, the necessities for the support of the laborers. The producer is pledged to sell to the capitalist his entire product at 8 per cent. less than the market price. The capitalist can lose nothing, for should the *aviado* (the one who receives the goods advanced) fail to live up to his agreement, he must pay the amount of the debt, with added interest, or lose his property, which is always more than the debt, The scarcity of capital and the high rates of interest prevent the producer from branching out, except by the contraction of heavy debts, while for the same reason he is not able to introduce improvements looking to a larger and easier production, being obliged to content himself with primitive labor and methods. Notwithstanding all these drawbacks, the business is very profitable.

As this region is new and little known to the commercial world it does not yet enjoy the name which it deserves, while our neighbors from Brazil who come here to establish themselves in the rubber trade do all they can to discredit the market, for personal speculative profit. Exact information as to the extent of the industry does not, therefore, reach the outer world. According to official statistics of the Iquitos custom house 1,002,437 kilograms [=2,205,361 pounds] of rubber were exported to Europe during the year 1899. It should be borne in mind, however, that during the past year the exportations were meager owing to the rare phenomenon of almost continual rain in the mountains throughout the whole summer (the time for collecting Jebe), and such rains as we have here prevent the work of gathering. It is calculated that the exports this year will be double last year's, as the producers expect to make up this year for last year's losses, relying on the fact that year by year the product increases considerably. It is impossible to give figures for the exports of former years, as no statistics were kept.

The market value of free Jebe—that is, product not mortgaged—is 7*s.* 2*d.* per kilogram [=about 78 or 79 cents per pound.]

There are more than six known varieties of trees producing Jebe rubber, but only two are exploited regularly, as giving the greatest amount of sap, and the principal one is classified botanically as *Hevea Guyanensis*.

We shall be glad to furnish you with whatever information you desire, and we reserve for our next letter a matter of vital importance to maritime commerce with the United States.

O. RIVAS & CO.

Iquitos, Peru, March 16, 1900.

MORE RUBBER IN PROSPECT FROM ECUADOR.

THE high price of rubber is stimulating its collection in Ecuador. A company has been formed by capitalists in the city of Quito, with an authorized capital of 300,000 sucres (about $128,100, gold), to gather rubber and other products in the province of Oriente, with a view to exporting the same by means of the headwaters of the Amazon, instead of using costly mule transportation to Ecuadorian ports on the Pacific. On this account Ecuador may not get full credit for all her exports. The government is endeavoring to check the wasteful practice of the natives in killing the trees in order to obtain rubber. The value of exports of rubber from Ecuador, and of the share taken by the United States, is thus stated in the *Bulletin* of the Bureau of American Republics for April:

	Total.	To U. S.
In 1897	$390,000	$350,000
In 1898	775,000	460,000
In 1899	600,000	450,000

The smaller share of such exports going to the United States is attributed (1) to the cheaper freights to Europe and (2) to losses from transshipments across the isthmus of Panama. The recent establishment of a direct shipping line to Germany is increasing the trade of that country with Ecuador. No

relief from the losses experienced in isthmian transshipment is expected until an isthmian canal has been constructed.

GROWING OUTPUT OF MOLLENDO RUBBER.

THE production of rubber in the Bolivian districts which find an outlet through the Pacific port of Mollendo—known in English markets as "Mollendo rubber"—was reported in THE INDIA RUBBER WORLD of March 1 for several years, up to June 30, 1898, with the statement that for the following twelve months the export probably would be much larger. The figures annexed complete the record from the beginning of the rubber extraction in the district referred to, to the close of the first half of 1899, showing that the shipments via Mollendo are reaching very important proportions.

	Pounds.
First half 1893	9,274
1893-94	17,587
1894-95	80,734
1895-96	251,341
1896-97	292,121
1897-98	491,087
1898-99	1,037,127

There was incorporated, March 7, under West Virginia laws, the Chicago-Bolivian Rubber Co., which has acquired large tracts of lands in the region referred to, and have projected extensive operations in rubber gathering. The authorized capital of the company is $1,500,000, and its headquarters, No. 234 La Salle street, Chicago. The directors are: *Charles B. Allen*, western agent United States Rubber Co.; *Chester B. Crandall*, manager Western Electric Co.; *Albert M. Crane*, assistant to chairman of American Steel and Wire Co.; *Edwin Haynes*, president of the company; *Captain Frank Moritz*, local manager in Bolivia; *George E. West*, formerly secretary National Biscuit Co.; *Charles E. Yerkes*, of Dewar & Yerkes, bankers. The field in which this company propose to work is that, among the headwaters of the river Beni, which the Beni Gum Co., organized by New York parties in 1892, was designed to exploit.

AN AMERICAN INVASION OF BOLIVIA.

A LETTER from the United States minister to Bolivia, writing to a member of a rubber exploiting company in the United States, on January 24 last, said: "A Mr. Treadle called yesterday on his way to the management of a mine in the interior, and says that next July some parties are coming, backed by a very large syndicate and fully empowered to make large deals in rubber lands in Bolivia. He then joins them, placing another superintendent over the mine. He is a New Jersey man who has been here many years, and I can depend on what he says, as I know of him. You are simply about four months ahead of the gangs who had been held back by the revolution here."

AMERICAN RUBBER COLLECTORS IN COLOMBIA.

WILLIAM M. HURD, of Middle Haddam, Conn., and some time employed by the Pope Manufacturing Co., at Hartford, together with his cousin, Frank G. Palmer, of New York, have been engaged for about two years past in the United States of Colombia in collecting rubber and other native products. They are reported to have been successful. Recently they visited their homes in this country, and took back with them a schooner, for coastwise trading, which they had built on Long Island.

QUIET IN THE ACRE RUBBER COUNTRY.

AN end has come to the political disturbances in the territory formerly in dispute between Bolivia and Brazil, drained by the river Acre, a tributary of the Purus, one of the great rubber yielding rivers in the Amazon system. By a treaty between the contending republics this territory was awarded to Bolivia, which country established a custom house at Puerto Alonso. Advantage was taken of the isolated location of this district, however, by a few adventurers, who proclaimed an independent "Republic of Acre," followed by disturbances which checked the only industry in the district—the gathering of rubber. Finally the authorities of the state of Amazonas—of which Manáos is the capital—exerted their influence in behalf of Bolivia, with the result that the so called independent state has been overthrown, and the authority of Bolivia over this territory fully recognized. As a result the revenues of the latter country will be augmented through the export duties on India-rubber from a district formerly under Brazilian control.

NOTES FROM CEARA.

AGAIN there are reports of serious droughts in the Brazilian state of Ceará, driving the laboring population to seek employment in the states along the Amazon—an indication favorable to a large output of rubber during the next season, as the Cearenses are good rubber collectors, though they prefer to remain at home when they can do so.

India-rubber formed the largest of eighty different items of export from the Brazilian state of Ceará during 1899, the value being 2,718,111 milreis—which, at 8½*d.* to the milreis, gives a value in United States currency, of about $431,335. Most of this rubber went to Europe.

RUBBER PLANTING NOTES.

THE Costa Rican government, according to a correspondent of THE INDIA RUBBER WORLD writing from San José, "are becoming awake to the necessity of some legislation with a view to protecting the rubber cultivation, but have not yet been able to decide on any comprehensive law, embracing the requirements of the planters, but I have no doubt they will soon take the matter up in a practical and efficient manner, as they take a lively interest in the subject."

=Dr. Paul Preuss, director of the German imperial botanical gardens at Victoria, Cameroons, German West Africa, was recently in Mexico, after having paid a visit to South America, in the pursuit of botanical studies in the interest of the German colonies in Africa. Dr. Preuss has given much attention to the subject of India-rubber, and doubtless will be prepared to contribute something of value to the discussion now so widespread on the planting of rubber. From Mexico Dr. Preuss went to Jamaica, to visit the botanical gardens there, meaning to return to the Cameroons by July.

=F. L. Torres, general manager of the Ubero Plantation Co. and of the Mexican Coffee and Rubber Co.—two companies with headquarters at Indianapolis, Ind., and rubber and coffee plantations on the isthmus of Tehuantepec, in Mexico—while at Denver, Col., recently, was quoted in the local newspapers as saying that he intended soon to go to China to contract for coolie labor for himself and other plantation managers who will join him in the experiment.

=The Isthmus Plantation Association of Mexico, with headquarters at Milwaukee, Wis., are reported by *Modern Mexico* to have planted 40,000 rubber trees, in addition to other planting, on their estate known as the Hacienda del Corte, in the state of Oaxaca, Mexico.

=The Mexican Coffee and Rubber Growers' Association (Philadelphia), May 4, under Delaware laws; capital, $5,000,000. Incorporators: William A. Mears, William J. Donaldson, Charles R. Dundore, and B. Gordon Bromley, of Philadelphia; Gardner W. Kimball, of Wilmington, Del. Organized to acquire by purchase or otherwise the entire capital stock of the Grijalva Land and Coffee Co., Limited, having over 100,000 acres of land in the cantons of Pichucalco and Mexcalapa, state of Chiapas, Mexico; also to construct and operate railways and steamboats. The Grijalva company have made plantations of coffee, cacao, and rubber.

JOTTINGS BY THE TRAVELING EDITOR.

HAPPENING in on a friend who does a large mackintosh business, I found him examining, with a great deal of care, a number of samples of cloth. In response to my inquiry as to what he was doing, he said:

"As you are undoubtedly aware, both showerproof and rainproof goods are very largely used throughout the mackintosh trade. From the beginning, I have followed them with a great deal of interest. Some of the cloths are treated by the original English process, and others by a variety of American processes to which fancy names are given. As showerproofs, most of them, when new, are pretty good. There is, however, this trouble about them, after a month or so—the chemicals wash out and then the stuff is as bad as untreated cloth. To give the cloth a good test, I usually send it to the steam scouring works near here and have it sponged and cleansed."

"That is a pretty severe test," I remarked. "What is the result?"

"In every instance but one the steam scouring has removed every trace of the waterproofing process, and the cloth has absorbed water as greedily as if it had never been treated."

"Tell me about that one," I suggested.

For reply, he took up a piece of cloth that bore no evidence of being different from any ordinary fine woolen fabric, and, pouring a little ink upon it, let it lie on the surface. Then, lifting the edges of the cloth, he allowed it to spread, the ink gathering itself in little balls and acting like quicksilver. After a moment he shook off the ink into the waste basket, and, except where a fiber stood up above the surface and had absorbed a little ink, there was no evidence of his rather startling experiment.

"This," said he, "has been through the steam scouring process, and, in addition, has been scrubbed in hot soap and water out at my factory. It is the result of a new process, an American one, which I have been following for a couple of years. I believe to-day that it is perfect, as it is not only showerproof, but is really rainproof."

"Will it go on cotton?" I inquired.

"Not as well as on wool or on silk. You see, according to the experts, animal fibers are hollow and will absorb chemicals throughout their length, while vegetable fibers, being solid, only partially absorb the chemicals. On a mixture of cotton and wool, however, it works nearly as well as where it is all wool."

* * *

WHILE the showerproof goods are under consideration, a happening in a rubber store in Boston may be of interest. A messenger entered a store during a storm and asked for a rubber coat. The clerk tried to sell him a mackintosh, but he insisted on having an old fashioned coat, for which he paid $6, throwing aside the handsome coat he wore, putting on the new one, and starting for the door. The clerk called after him, asking where he should send the discarded coat. The answer was a startling one, for with a somewhat lurid oath the messenger said the coat was no good, and they might throw it in the scrap heap. The owner of the store happening to come in just then, picked up the condemned garment and examined it. It was a showerproof that was beautifully made, and had doubtless retailed for $25. The chemicals, however, had washed out, and the result was that it not only did not shed water, but absorbed it greedily. This is not chronicled with the idea of condemning all showerproof goods, but rather with the hope that manufacturers will apply a thorough washing out test to these cloths before putting them into use, as experiences of this kind damage the reputation of good goods as well as bad.

* * *

WHAT is known as "naphtha daze" is a type of giddiness that has often affected workers in rubber factories where large amounts of benzine are used. Indeed, the writer well remembers the giddiness that used to overtake him sometimes when working on a spreader in a close room. A peculiar case of naphtha daze was cited in the New York papers not long ago, where a Philadelphia man employed in a leather house was in the habit of using naphtha to thin a certain varnish. After awhile he showed signs of insanity, tried to kill a neighbor without provocation, and later, actually murdered his wife and two children. His lawyers set up a claim of irresponsibility due to naphtha daze. It is highly probable that the man was insane anyway, and, without the aid of naphtha fumes, would have developed homicidal tendencies. At the same time it is well for manufacturers to bear in mind that there is occasionally an employé who is easily influenced by almost anything except fresh air, and that there are many petty lawyers who will encourage just such ones to bring claims for damages against the corporations for which they work. Wise manufacturers, therefore, will have well ventilated rooms, as reliable help as may be, and accident insurance.

* * *

IT often happens that a very simple mistake at the beginning of a business has exceedingly serious consequences later on. An example of this is shown in the experience that a would-be manufacturer of wool boots went through. Before buying his machinery and starting his plant, he got an estimate from an expert on the cost of the product amounting to a certain sum for twelve pairs, as he supposed. While the machinery was being put in place and the first goods were being turned out, he went out and made contracts at a price that staggered all competitors. It was not until he had begun to fill orders that he discovered the price was based upon twelve boots, and not twelve pairs of boots, and this trifling error served to fail him.

* * *

A MANUFACTURER who has long been in the trade and who is a keen observer, remarked recently: "The old fashioned rubberman who invented a good thing was afraid to make and sell it for fear some one would see it and imitate it." This was no doubt true in many cases, and it is not altogether without reason, for most originators of new and valuable specialties have suffered from imitators who often lacked originality but knew how to market another man's ideas. The writer has always felt a deal of sympathy for Southwick, who, some years ago, brought out the wine colored coat and who at first made considerable money out of it. The other companies were urged by the trade to make a like coat, and they did. It was their right, of course, but it nearly broke the originator's heart, and as far as I know he never brought out another paying specialty, and to-day his factory is used in the manufacture of stoves.

* * *

JUST where to draw the line between imitation and legitimate adaptation and improvement upon another man's idea is a fine question. At one time a manufacturer invented a

syringe that had undoubted merit, but it was not a lovely thing to look upon. It was crude, clumsy, and incomplete; in fact it was only a suggestion. It did not sell and probably never would. Another firm, so it is said, saw it, and that is only gossip. They had the genius of complete invention. They in turn brought out a syringe that took instantly. Now the second firm could hardly be criticised for their action. They were honest, upright, successful, but the unsuccessful manufacturer always felt that he had been robbed.

* * *

RECURRING to the subject of secrecy in the rubber trade, there is good ground reason for it, after all. Not that the mere citation of compounds is any great detriment, for with the compound goes the manipulation, the cure, and often the man who does the mixing. The real trouble is that the purchaser to whom a little knowledge of compounding may come, imagines at once that he is possessed of a valuable lever by which to force down prices. He suspects substitutes and shoddy, where the goods are manifestly pure gum. He buys bands by the pound and thinks they are loaded with barytes. He bullyrags the manufacturer, disbelieves him, and both are mutually unhappy. Worse than the buyer, however, is the bright salesman or agent who, stumbling on compounds by some means or other, and ignorant of their use, advises the home concern how to make goods to suit a certain customer, even to sending formulas that would make angels weep. These are those who make the manufacturer vow that he will never divulge another trade secret, and yearn for the good old times when "rubber was rubber," no matter what its make up. And this fervent wish is born not so much for greater profit, but rather for greater peace.

* * *

MR. JAMES BENNETT FORSYTH, general manager of the Boston Belting Co., finds time in the midst of an exceedingly busy life to post himself thoroughly on events of current interest. One of his pet subjects is the British-Boer war, which he has followed very closely, and in the details of which he has a most minute knowledge. Certain pamphlets, which give an excellent review of the situation, he has purchased and distributed by the thousand, a most effective way of influencing public sentiment and to be commended to all public spirited Americans.

GUTTA-PERCHA SUPPLY AND THE PACIFIC CABLE.

THE passage by the United States senate of a bill, which is now before the house of representatives, to provide for a Pacific cable of American manufacture, has led to conjectures as to the possibility of constructing such a cable in this country. Moreover, the agitation of a Pacific cable project in any country has given rise to doubts whether there is enough Gutta-percha available for such use. The material which follows, derived from various sources, is presented here as having a bearing upon these considerations.

AMERICAN FACILITIES FOR CABLE BUILDING.

AT one hearing before the senate committee on naval affairs, Herbert L. Saterlee, an attorney representing some American cable manufacturing companies, appeared to support the proposition that the Pacific cable should be of American production. "The two plants that I represent," he said, "are situated on New York bay. One is at Bayonne City, Bergen Point [N. J.], and the other is at South Amboy. They have deep water sites on the water front." Representatives of these two companies were also heard.

Ira W. Henry, for the Safety Insulated Wire and Cable Co., said: "We have an establishment at the present time in New York city, covering ten city lots. It is six stories in height. We also have a plant building in Bergen Point that will cover eleven acres."

Thomas E. Hughes, representing the Standard Underground Cable Co., said: "Although we have had in constant operation since 1883 in the city of Pittsburgh, Pa., a plant of large capacity in the production of underground, aerial, and submarine cables, the evident limitations of an inland plant for manufacturing and shipping any but short submarine cables have, among other things, led us to acquire an extensive property, with deep tide water frontage, at Perth Amboy, N. J., where large factory buildings and requisite machinery for the manufacture of wires and cables are now in process of erection and will be in operation by next spring or early summer."

The following is from a report of a hearing, in Senate Document No. 137, LVI congress, 1 session:

THE CHAIRMAN.—Is there any cable construction company in this country now dealing with the magnitude of a Pacific cable?

GENERAL SWAYNE.—I do not think there is any company just at present dealing with constructions of that magnitude; but this I can say to you: For many years what is known as the Washburn Moen Co. was engaged very largely in Massachusetts, in Illinois, and in California in wire construction, including cables, and they flattered themselves that their cables, although they did not sell any very long ones, were the best in the world. I think they have told me that their wires were extensively taken to Europe for use in cable manufacture there; and I think that I violate no confidence when I say that I know that that company, which is now a department of the American Steel and Wire Co., has made very elaborate preliminary arrangements for the manufacture at San Francisco, or in that vicinity, of cables of any kind and character, and with special reference to the construction of a Pacific cable.

ONE REASON GUTTA-PERCHA IS HIGH.

REGARDING the demand for, and prices of crude Gutta-percha, and the effect upon prices, James A. Scrymser, of New York, before the senate committee on naval affairs, on January 16, mentioned the agreement by the colonies of Canada and Australia to establish an "all British" cable across the Pacific ocean. He said, incidentally:

"The Eastern Telegraph Co., which, for twenty-five years or more has faithfully protected British interests and aided British commerce, felt that the English government, in going into its territory with a government owned cable, was invading its rights. And the company went into the market and bought about 1800 tons of Gutta-percha; in fact, all the Gutta-percha that was available at anything like available prices. Simultaneously with that movement the German cable company came into the field; the German government insisted upon their contractors carrying out their proposed cable from Lisbon to the Azores, and from the Azores to Halifax; and they bid against the [Telegraph] Construction [and Maintenance] Co., which was making about 13,000 miles for the Eastern company; and the result was that the prices of materials were run up 40 to 50 per cent. Between the Construction company, which obtained this 1800 tons of Gutta-percha, and Siemens Brothers, who obtained the material for the Azores-Halifax cable, and the Silvertown people, who had some material on hand—the three contracts representing in all possibly 22,000 miles of cable—the world's supply of Gutta-percha has been

exhausted." Mr. Scrymser thought, for these reasons, that the building of a Pacific cable in the near future would be an impossibility. "I think, of course, the market will adjust itself," he continued. "I think the conditions have led to an unusual demand at this particular time, for the particular reasons which I have stated."

General Wager Swayne, addressing the house committee on interstate and foreign commerce, on January 26, referring to a cablegram received in Washington a few days before, from Siemens Bros. & Co., Limited, saying that they were in a position to execute an order for a Pacific cable, said:

"That would seem to dispose of another question that had had some part in your discussion, and that is the question of a supply of Gutta-percha. Those people would not say that they would make a trans-Pacific cable if they did not have the means to make it with." The point which General Swayne sought to make was that enough Gutta-percha was available to permit of the building of a new cable in very short order.

Mr. Scrymser, who is mentioned above, appeared also before the committee of the house of representatives having in charge the Pacific cable question—on January 9—where he made the same argument as before the senate committee in relation to the "cornering" of Gutta-percha. Referring to the reported purchase of 1800 tons by the Eastern Telegraph Co., he said that this had "practically cornered the English government."

"They then," he continued, "turned to the English colonies and said, practically: 'Now this Transvaal war necessitates better connection with the Cape of Good Hope. The Eastern company will lay a cable from Gibraltar to St. Helena and the Cape of Good Hope, which will give the English government three lines, provided the government and the colonies will not interfere with us in the Pacific.' The Eastern company has already contracted for 13,000 miles of cable" for carrying out this project. Hence Mr. Scrymser did not think that an "all British" cable would be laid across the Pacific, for several years to come.

IS THERE A "CORNER" IN GUTTA-PERCHA?

WE have also examined carefully into the statement that all the visible and anticipated supply of Gutta-percha for a long time ahead has been cornered, and while it is true that the demand has been large, and the price of crude Gutta-percha has materially advanced in the last twelve months, we are satisfied that we shall be able to procure all of that or any other insulating material that may be necessary for the Pacific cable.

THOMAS E. HUGHES (Standard Underground Cable Co.), before United States senate committee.

The question of the corner in the Gutta-percha market, although it would appear quite serious on the subject, might be attributed to a fine diplomatic move on the part of England to make America always dependent on her for submarine cables, and thus control this acknowledged great factor in warfare. It can positively be stated that American manufacturers have discovered a market where this material can be purchased, if deemed necessary, and also that the trans-Pacific can be made, laid, and guaranteed along the same lines as Gutta-percha cable without using one pound of that article in its manufacture.

IRA W. HENRY (Safety Insulated Wire and Cable Co.), before United States senate committee.

I heard Colonel Squier, of the engineer's department, say the other day that when Mr. Scrymser spoke before the house committee on interstate commerce of the great practical difficulties in getting anybody to lay a cable, on account of the scarcity of Gutta-percha, he simply went out after the hearing and telegraphed to that firm [Siemens Bros. & Co., Limited, London], asking them whether they were prepared to build a trans-Pacific cable, and they cabled back that they were.

GENERAL WAGER SWAYNE (attorney for American cable interests) before United States senate committee.

The fact that the Gutta-percha market has not been cornered by these British interests in anticipation of our trans-Pacific cable is known to American manufacturers and is doubtless known to the officers of our governmental departments who are interested in this question. The fact also that such a cable could be made and successfully operated without the use of a pound of Gutta-percha is also a matter with which cable experts are entirely familiar, so that there need be no apprehension that the business cupidity of foreign cable interests can prevent our making the cable in this country. Reliable information at our disposal shows that we can rely upon sufficient Gutta-percha for the manufacture of the cable if the government specifications require it.

HERBERT L. SATTERLEE (attorney for American cable construction companies), before United States senate committee.

STATISTICS OF GUTTA-PERCHA.

IN this connection may be presented the statistics of Gutta-percha shipments from Singapore, as recorded by the Singapore Exchange, this being the principal market of the world for this commodity. It will be seen that the shipments have increased very largely for the past two calendar years, former shipments ranging ordinarily from 6,000,000 to 9,000,000 pounds a year. The figures denote pounds, and show the destination of exports as recorded at Singapore:

YEARS.	Great Britain.	Continental Europe.	United States.	TOTAL.
1899	10,149,867	5,586,800	441,466	16,178,133
1898	6 680,666	3,069,467	435,200	10,185,333
1897	3,967,867	2,307,066	162,800	6,437,733
1896	3,376,000	2,379,337	194,666	6,250,000
1895	4,045,467	1,608,933	596,800	6,251,200
1894	4,724,400	987,067	518,000	6,229,467
1893				5,066,880
1892				4,258,240
1891				7,013,440
1890				9,535,680
1889				6,606,720

A correspondent of THE INDIA RUBBER WORLD writes: "We would mention that in some instances Gutta-jeletong (or Pontianak) has been included, so it is hard to exactly get quantities of each." It is not possible, however, for the great increase in reported shipments of Gutta-percha to have been due, to any important extent, to errors in classification, since it is just as likely that some Gutta-percha may have been classed as Pontianak. Besides, we may refer to the statistics of Gutta-percha reported by the customs office in Great Britain, showing imports and exports as follows, and also showing a heavy increase in the total movement during two years past. These figures also denote weight in pounds:

YEARS.	Imports.	Reëports.	Net Imports.
1899	9,238,544	840,224	8,398,320
1898	7,084,656	1,151,136	5,933,520
1897	4,641,504	859,488	3,782,016
1896	4,906,160	1,623,664	3,282,496
1895	5,384,624	1,404,032	3,980,592
1894	4,342,352	893,200	4,342,352
1893	4,534,880	832,160	3,702,720

If it should be noticed that the British imports of Gutta-percha during 1899, for instance, do not correspond with the

exports from Singapore for Great Britain in that year, it may be remarked that all the shipments from the latter port up to December 31 cannot reach their destination during the same calendar year. Likewise, some of the English receipts in the early part of the year represent shipments from Singapore for several weeks of the previous year.

Again, the shipments to America reported from Singapore correspond with the views in the trade here as to the amounts actually received here. If there were any serious error in the Singapore statistics, therefore, it would be as likely to apply to exports to America as to any other. One more point is with regard to the exports of Gutta-jeletong (Pontianak) registered at Singapore, which were, in 1899, as follows:

Great Britain.	Other Europe.	United States.	Total Pounds.
336,933	551,867	10,887,067	11,775,867

With such figures as these to consider, it appears hardly probable that any great amount of Pontianak could have been included improperly in the Gutta-percha returns. What is important to consider, however, is the very great increase in the shipments of Gutta-percha to continental Europe, due to the increased consumption of the material in Germany and other countries.

RUBBER MANUFACTURING IN ITALY.

THE history of the India-rubber industry in Italy is confined to the development of the works of the firm Pirelli & Co. (Società per la lavorazione della gomma elastica e della gutta-percha), the principal seat of which is at Milan. Until 1872 Italy had to be supplied with India-rubber articles entirely by foreign producers. In that year Messrs. Pirelli & Co. initiated the first Italian India-rubber manufacture, and started the works that to-day represent the only enterprise in this line, and constitute one of the most flourishing industries in Italy. The works are owned by a private concern of capitalists and, since the beginning, were and still are, under the general direction and management of the founder Mr. Pirelli. In these works the Italian India-rubber industry has made such progress—for the most part in the past ten years—that there is scarcely any branch which has not been thoroughly studied and developed. Any article into which India-rubber enters may be made there, with the result that not only is the domestic market largely supplied without recourse to imports, but the Italian products compete successfully in foreign markets.

At the beginning—namely, in 1872—the firm of Pirelli & Co. limited their production to the commoner articles of mechanical rubber goods. Gradually they took up the surgical lines, and began with success an export trade. In 1883 they began the manufacture of rubber thread, competing successfully with the best English products in this line. About the same time a separate factory was established for the insulation of electric wires with caoutchouc, with such success that to-day this forms the most important department of the firm's business. Their insulated wires find a market not only in Italy, but in Spain, Egypt, Switzerland, South America, and even in England. In 1886 they began the manufacture of submarine cables insulated with Gutta-percha —this being, up to 1890, the unique example of this industry in the world, outside of England. For this purpose a special plant was erected at Spezia, a cable laying steamer was built—*La città di Milano*—with engines of 1300 horse power. The firm have manufactured and laid cables for the Italian government in the Mediterranean and the Adriatic and the Red Sea, and for the Spanish government in the Mediterranean, all of which have given the most satisfactory results in practice.

The spread within the past ten years of the *peronospora* (the vine plague), requiring the most energetic efforts for the protection of vineyards, has given the Milan firm an opportunity to add an important branch in the manufacture of specially designed pumps and sprinklers.

During the same period the bicycle has come into wide use, and with a view to becoming prepared for the resulting new demand for rubber the Messrs. Pirelli & Co., in 1892, began the manufacture of pneumatic tires and other rubber cycling accessories. In the second year their production of tires doubled, and it is now about ten times the original volume. Five years ago they began the manufacture of underground electric cables, insulated with fabrics treated with resins by a special process, with such success that their product in this line is to be found in the principal electrical installations in Italian cities, and in many other parts of Europe. The firm now have also the exclusive rights for Italy for the manufacture of telephone cables, with the dry air insulation, of which several miles are now in use in Milan alone.

In one word, the production of the works of Pirelli & Co. at the present time embraces every kind of India-rubber articles: technical, surgical, hygienic, hard rubber goods, waterproof goods, tires, balls, toys, sporting lines, etc., together with all kinds of insulated copper wires and cables for any electrical purpose. The principal works of the company at Milan occupy a total area of 384,000 square feet. The motive power, amounting to 800 horse-power, is electricity. More than 2500 men and women are employed. Within ten years the production has increased four fold, and the machinery used in like proportion. The capital employed is 5,500,000 lire ($1,100,000) in shares of 500 lire ($100) each, and 3,000,000 lire ($600,000) in obligations. The firm have branches for the sale of their products in Naples and Turin, and agents scattered all over the world.

To illustrate the rate of growth of the industry above referred to, the following figures have been compiled, the first column showing the annual average imports of crude rubber by Messrs. Pirelli & Co., and the second column their annual average consumption of copper for electric conductors:

Period.	Rubber Imports.	Copper Consumption.
1889–92	250 tons.	300 tons.
1892–95	300 "	600 "
1895–99	360 "	1000 "

[For the year 1899 the figures were taken to October 31.]

The founder of this establishment, and its present active director, is Jean Baptiste Pirelli. He first became interested in the subject of the rubber manufacture while traveling abroad to complete his studies as a surveyor. On returning to Italy, in 1872, he determined to introduce this industry into his own country. So, after much study, and further research abroad, there was started at Milan the small factory, with a capital of 300,000 lire, subscribed among Mr. Pirelli's Italian friends, which has grown, by intelligent and determined effort, to the important dimensions described above. It is understood that there exists in Italy only one other firm engaged in the consumption of crude rubber, and that on a small scale.

RUBBER PLANTING EXPERIENCES IN NICARAGUA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In the March number of your journal appears a very erroneous article, made up, it seems, of surmises and hearsay, written by Charles D. Scott, of San Juan Del Norte, Nicaragua, in regard to rubber culture in Nicaragua. For fear that his statements may be believed by readers of your journal, I take the liberty of writing to you to contradict Mr. Scott's rash article; I am sorry he did not make a thorough search for information.

There are a number of good rubber plantations in this district. One planter is Mr. G. G. Cossitt, who gives his experience in rubber culture for the past three years, which is no hearsay or surmise, but reality. Mr. Cossitt says: "After years of exploration of Nicaragua, I decided to locate near here for rubber planting, on account of the rich land, healthy location, and proximity to market. In June, 1897, I planted my nursery of rubber seed, and in January, 1898, I began cutting the timber on the Tennessee plantation. Everything was cut clean and burnt off in April, and the rows for rubber laid off. On the 19th of May, 1898, as the rainy season began, I commenced transplanting from the nursery, and finished in July. Since then I have kept the plantation cleaned and well cared for. At this date I have many trees from 5 to 6 inches in diameter and from 12 to 16 feet high, and two-thirds of my trees are large enough to take care of themselves with little or no more attention. These facts can be corroborated by many, or what is better by coming to the plantation and seeing for one's self."

CULTIVATED RUBBER TREE IN NICARAGUA.
[*Castilloa elastica* tree, 3½ inches in diameter at 16 months from planting the seed.]

Mr. Scott speaks of the probable short life of the trees after bleeding begins, but from my observation, there is no tree that has greater tenacity for life and can stand such rough usage. There are trees on my place that were there when I began work that are 16 to 18 inches in diameter and must have been bled for ten or twelve years and they are yet growing well. It is true that the trunks show a rough scarred appearance, but that is due to the ruthless bleeding done by the natives with the only tool used by them, "the machette." Formerly they always cut the trees down. I have been told by old men living here that rubber trees formerly grew in this vicinity that were from 4 to 6 feet in diameter.

In June, 1898, I visited a man living some miles from here to get rubber seed, and saw a tree he had planted that was eight years old and 15 inches in diameter. He had bled it for the first time during the Christmas of 1897 and got from it 5½ pounds of rubber. By a systematic way of bleeding the rubber tree, I am sure the life of a tree can be prolonged indefinitely and it will continue to increase in size and yield. From the rough manner in which the natives bleed the rubber trees of Nicaragua (the wild forest trees) they will soon be exterminated.

From my actual experience on "The Daytonia" plantation, we have trees 1½ inches in diameter and from three to four feet high, planted from seed last June. They were planted out in the open sun without any shade whatever; neither have they been shaded at any time since transplanting last September. In order to give the rubber trees all the sun possible, we have the trails running east and west, so as to catch the sun all day.

A great deal has been said, *pro* and *con*, in regard to planting rubber in the sun, but the trees grow more rapidly when planted in the sun and it is quite evident that they are more healthy and produce more rubber. Take trees planted in the shade, as a great many natives have done, and you will find them a failure. This, we have learned, by close investigation for some years back, and also from actual experience. Rubber is of very slow growth when planted in the shade, and when found in the forest you will notice that the tree has shot straight up in search for the sun.

Rubber trees planted in the sun will attain a size in diameter in two years of from 5 to 6 inches and a height of from 15 to 20 feet, while trees planted in the shade in the forest 5 inches in diameter will reach probably a height of from 40 to 50 feet and will take, as near as we can ascertain, from information gathered from all the authentic works we can secure, from twenty-five to thirty years.

The method the natives follow in tapping the rubber tree is very injurious, as they, in their ignorance and carelessness, cut clear through the bark and into the wood of the tree. This is entirely unnecessary and uncalled for, as the milky substance, or rubber, is held or contained in millions of small globular cells $\frac{1}{1000}$ inch in diameter, and in bleeding it is entirely wrong to cut through the bark and into the wood, as no rubber milk is gotten between the bark and the wood of the tree. It is held in the minute cells in the bark and if a tree is properly tapped, by making an incision simply in the bark, it will do no injury to the tree. We would say that rubber trees are not easily killed. We find trees on "The Daytonia" plantation, volunteer trees, that have been cut nearly to pieces by the rubber hunters and still they live and flourish, showing that rubber is a very hardy plant and not easily killed as Mr. Scott would imply. It is a fact that there is very little known of rubber culture in Nicaragua, except on the eastern coast and near Pearl City.

As the editor of THE INDIA RUBBER WORLD says: "Because rubber grows in one locality, in a state, it is not an assurance that it will grow everywhere." We know there are large areas in northeastern Nicaragua that are totally unsuited for it, and even in this vicinity rubber does not do well everywhere, but altogether it is the finest locality in Nicaragua for rubber cul-

ture. In the dry zone in the interior and on the west coast of Nicaragua, it does not grow well. Rich land, good drainage, and plenty of moisture are the requisites for successful rubber culture.

If anyone should doubt the authenticity of the above statements, we would be pleased to have them make a visit to Pearl City and we will take great pleasure in showing them that what has been stated is true. GEORGE L. BITTINGER.

Pearl City, Nicaragua (Department of Zalaya), April 9, 1900.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Having just returned from a two months' trip in Nicaragua and Costa Rica, where I visited and inspected plantations of rubber, chocolate, cocoanuts, pineapples, bananas, vanilla, oranges, sugar cane, and the like, and investigated localities, soil, and cost of planting, talked with men who are working and investing heavily in them—I feel that I am in possession of correct information on this important "Rubber question" in Nicaragua. In addition to the foregoing article of George L. Bittinger, which I endorse, I will only say that I am convinced that Mr. Scott knows absolutely nothing about the "cultivation" of rubber. His little article itself is full of contradictions, one paragraph with another, and would not be worthy of attention or consideration were it not for the fact that many innocent people read your valuable journal—people who do not know, and yet who are anxious to know the facts about the culture of rubber and which is now a very profitable and staple commodity and is a product of Nicaragua.

Men's opinions differ, according as they know much or little of a subject. I met Mr. Scott and believe he intends to be honest, although his education on the natural resources of Nicaragua has been sadly neglected. He evidently does not know that there are plantations of cultivated rubber trees over forty years old, that have been tapped every year for more than thirty years, and are yet increasing in annual yield and are still alive, growing, and healthy. Mr. Scott quotes one friend of his only. I would not consider the experience of one man in one locality, or of a dozen men in one locality, as proof or evidence that the same conditions exist all over the state. Mr. Scott says his friend planted rubber trees and failed and, so he says, "Rubber is no good in Nicaragua." It is as consistent to say that a man tried the drygoods business in New York and failed, so the drygoods business in the United States is "no good."

Now I saw on the plantation of Dr. Roman, at Jinotepe, Nicaragua, not a great way from Greytown, where Mr. Scott lives, rubber trees nine and ten years old, that had been tapped since seven years old and are as strong and healthy as though never touched; these trees are over two feet in diameter, gave an average of 5½ pounds of rubber the first tapping, which has increased nearly a pound per year since. These trees were planted at first as shade for coffee trees. I also saw a number of old rubber trees, shown me by some native rubber cutters, from which they had cut rubber every year for the last fifteen to twenty years. The trees are still healthy and big, although considerably cut up, as these native cutters are indifferent and take no care of the trees, not even sealing their uneven cuts with mud to prevent exposure to the air, sun, rain, or insects, and yet the trees thrive and yield 10 to 15 pounds at each tapping. I saw three tapped. Rubber plantations have about 200 trees per acre; figure the profits.

I could go on indefinitely to show that Mr. Scott is absolutely and ridiculously ignorant of his text, but I wish only to supplement the article of my brother, which was written on his own plantation in Nicaragua, and will close with the names of some of the private planters of rubber in Nicaragua, which are there and can be seen any time. If Mr. Scott will take a trip of sixty miles up the coast to Pearl Lagoon and see for himself, he will be sorry for his expression against rubber—unless he has cacao land to sell.

The rubber tree, like all other trees, requires the proper soil, care, and conditions for its growth and profitable cultivation. That it can be made as profitable in Nicaragua as anywhere in the world, there is not the shadow of doubt, of which I believe I can fully satisfy anybody by absolute proof. At present the most suitable soil and location in Nicaragua for rubber cultivation, seems to be in the region of Pearl Lagoon, where are located a number of plantations.

The Nicaragua Fruit and Trading Co. have 15,000 rubber trees planted, besides chocolate, pineapples, and bananas, and will continue planting rubber until they have several hundred thousand trees. The Manhattan Rubber Manufacturing Co. have some 75 000 trees planted, and these two companies decided on this location after researches had been made in South America and other Central American states. Their trees are from one to three years old, 3 to 15 inches in diameter, and 5 to 25 feet high. These trees I call cultivated trees and they are in Nicaragua. Individual plantations are those of Messrs. George L. Bittinger, G. G. Cossitt, F. E. Mellinger, J. G. Mason, S. Iron, Paul Hentz, J. Kinsey, J. A. Peterson, H. Waldron, Mr. Watson, and a number of others whose names I do not know, ranging from 5000 to 20,000 trees each, who are working every day in the same locality in Nicaragua.

If Mr. Scott will read the books "Crude Rubber," by Henry C. Pearson, editor of THE INDIA RUBBER WORLD, and "All About Rubber," by J. Ferguson, he will learn that the rubber tree is strong, big, healthy, and rugged, capable of a great amount of punishment, and a long producer. I investigated the field thoroughly and will be glad to reply to any inquiry by those who may wish more detailed information on the subject.

F. D. BITTINGER, M. D.

Dayton, Ohio, May 12, 1900.

EDITORIAL NOTE.

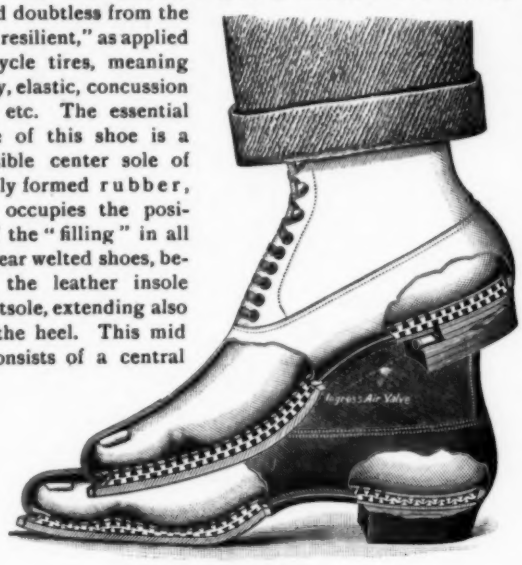
IT is fair to Mr. Charles D. Scott, a merchant residing at San Juan del Norte, and from whom THE INDIA RUBBER WORLD published a short letter on March 1, to state that he has not assumed to write authoritatively on rubber cultivation in Nicaragua. His writing was not even of his own suggesting. A friend of the Editor, knowing that information on the subject would be desirable, suggested Mr. Scott as likely to be able to furnish it, and the letter written by Mr. Scott was only an answer to inquiries from this office. That gentleman does not deserve, therefore, to be attacked too severely for not having covered the subject more thoroughly. His letter may indeed be held to have performed a good service in prompting others who are better informed to make known their experiences. It is as well, too, for the causes of some failures to be made public, as Mr. Scott has done with regard to planting rubber in forest shade.

THE New Orleans newspapers reported recently a visit to that city of W. Harrison Moore, a resident of San Jose, Costé Rica, described as the Central American representative of the Pan American Mining and Milling Co., and joint owner with George B. Holden, of Lowell, Mass., of 150,000 two year old rubber trees, near San José. The Pan American company are reported to have purchased, through Mr. Moore, 5000 acres of rubber lands in the Laguna de la Porla district of Nicaragua, and 5000 acres in the Reventa Zone district of Costa Rica. Mr. Moore has been associated to some extent with Minor C. Keith.

NEW GOODS AND SPECIALTIES IN RUBBER.

A FOOT CONFORMING SHOE WHICH VENTILATES.

IT has been said that a shoe, like a pudding, has two sides—an inside and an outside. But now a Boston concern has gone the pudding "one better," and has put on the market a shoe which with one outside has *two insides*—a big one and a little one. This new shoe is named "The Resilia," derived doubtless from the term "resilient," as applied to bicycle tires, meaning springy, elastic, concussion proof, etc. The essential feature of this shoe is a collapsible center sole of specially formed rubber, which occupies the position of the "filling" in all Goodyear welted shoes, between the leather insole and outsole, extending also under the heel. This mid sole consists of a central

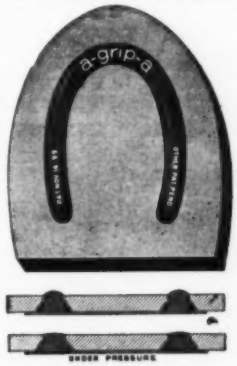


THE RESILIA SHOE.

web of India-rubber, having dove tail ribs molded on the upper and lower surfaces, and so placed that the upper ribs sink between the lower when a pressure of about 150 pounds is borne upon them. This sinking of the upper ribs stretches the central web of rubber, which thus acts as a spring, expanding the insole from the outsole when the foot is lifted, and so acting as a bellows or automatic air pump, at each step. When the foot is lifted, this expansion of the sole draws in a current of fresh air through a tiny valve in the breast of the heel. This valve then closes, locking within the air contained in the cross channels, and when the foot bears upon the insole, the air is forced up through a row of perforations in it, circulates through the meshes of the stocking, and goes out at the boot top. This process, repeated at every step, is said to result in absolute ventilation of the shoe interior. But it does more than this, for the springy nature of the shoe sole thus permits the insole to conform to every curve and movement of the foot sole, when borne upon, and so distributes the weight, and labor of walking, over the whole area of the foot, instead of centralizing it at four spots—viz., ball and heel, great toe, and outer edge. It also acts as a concussion check when the heel strikes the ground, having much more spring in one quarter inch than there is in a solid one inch rubber heel, while being invisible. At the same time, it spreads wear more uniformly over the shoe sole, by flattening the outsole, as in a pneumatic bicycle tire, when it strikes the ground, thus bringing twice the area of the outsole in contact with the pavement. But to explain the two sizes of inside with only one size of outside. The foot is a natural cushion, which expands at the ball under pressure. Most people know this who have ever worn a tight shoe which feels easy when the foot is lifted, but hurts when the foot is borne upon. Now this means that every foot is practically a size larger at the ball, when standing on it, than when it is lifted, and no ordinary shoe could fit equally well at both stages. But "The Resilia shoe" apparently does this, since the foot sinks into the sole when borne upon, thus making it a size larger interiorly, without affecting its exterior, while the slack is taken up when the foot is again lifted, by expansion of the center sole. This prevents stretching and wrinkling of the upper leather, while making a veritable "sole of comfort" for the hard working and much abused foot. The Resilia Shoe Co. [No. 172 Tremont street, Boston] recently incorporated with $300,000 capital, own the patents, and are putting these shoes on the market for spring, confining the sale to one leading retailer in each city. E. L. White is president; Charles W. Tidd, treasurer; John E. Kennedy, vice president and general manager; and Charles H. Brown, J. A. Coram, Charles E. Slater, and M. A. Kennedy the additional directors. Mr. White is the head of the large tanning firm of White Brothers & Co. (Boston), and vice president of the American Hide and Leather Co. Mr. Tidd is also treasurer of the latter company.

THE "A-GRIP-A" RUBBER HEEL.

THIS new heel is made of a combination of leather and rubber. The rubber cushion is put on before the top lift is clamped on in the shoe factory, and the idea combines the use of a prearranged or cut top lift, as well as the use of the rubber cushion. There have been complaints that some of the rubber heels hitherto on the market have been too heavy. The "A-grip-a" is surely light. In the case of those rubber heels that create no sound the wearer may have a feeling that other people, not hearing him walk, think he is "sneaking" along. The "A-grip-a," while it serves as a cushion and takes the jar from the body, still allows the wearer, before the full step is taken, to put his leather heel so solidly upon the floor or sidewalk that he can be heard. As the outside of the "A-grip-a" is of leather, it can be finished, stained, and polished, while the ordinary rubber heel put on by a cobbler is not always cut accurately to fit, nor present a finished appearance. In wear the rubber slightly protrudes beyond the leather surface, cushioning the heel at the time when the greatest weight is upon its without any disagreeable spring. In the "A-grip-a" allowance has been made for the expansion of the rubber inside the heel when under pressure, and tests have demonstrated the fact that the wear of both leather and rubber is greatly increased when used in this way. [United Shoe Machinery Co., No. 111 Lincoln street, Boston.]

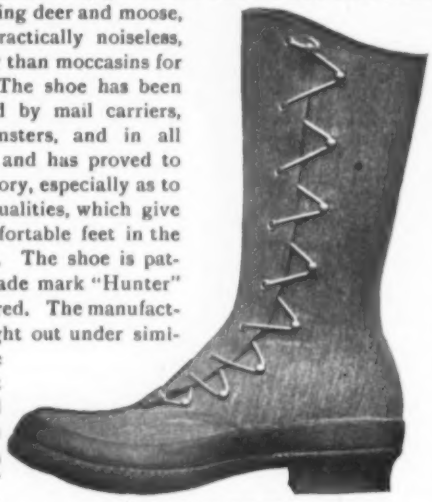


THE A-GRIP-A HEEL.

"THE HUNTER"—A NEW BANIGAN SHOE.

THIS new article of footwear has been designed to meet a demand from sportsmen for something to keep their feet both dry and comfortable during a day's hunt in the swamps and over the hills. This shoe is designed to meet both requirements, being so constructed as to keep the feet warm in the coldest climate. As shown in the cut, it is laced up on one

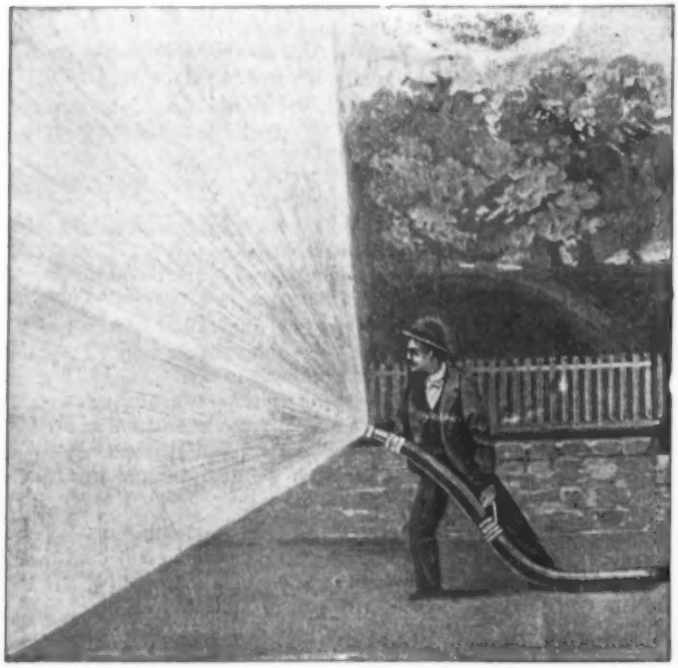
side, similar to the United States army leggings, which helps to support the ankles and enables the wearer to travel with less fatigue than in boots or other footwear heretofore produced. It is also claimed, by many guides and hunters who wore them last season hunting deer and moose, that they are practically noiseless, and much better than moccasins for still hunting. The shoe has been thoroughly tried by mail carriers, motormen, teamsters, and in all other vocations, and has proved to be very satisfactory, especially as to its cold proof qualities, which give the wearer comfortable feet in the coldest weather. The shoe is patented and the trade mark "Hunter" has been registered. The manufacturers have brought out under similar design a shoe of lighter weight which is adapted for wearing in the same way as the "Hunter," but without its cold proof qualities. The registered name will be "Forester," and this name will be plainly stamped on each shoe, as on the "Hunter." These are not overshoes, but are worn next to the stocking. They can be worn with the trousers outside or tucked in. The "Hunter" has snow-excluding bellows tongue, lap-over lacing fly, and quick lacing hooks, leather inner sole, rolled edge sole. [The Joseph Banigan Rubber Co., Providence, R. I.]



"THE HUNTER" BOOT.

THE "F. AND F." FIRE NOZZLE.

THIS new spray fire nozzle, invented by Phillip Fuerbringer and C. G. A. Fischer, is intended for use in fire departments, factories, hotels, mills, and large buildings, as a fire extinguisher, as well as for fountains, sewer and culvert cleaners, land irrigation, street and road sprinklers, and in breweries for cleaning vats, etc. In ordinary use it throws a stream of water, the same as any other nozzle, but with a turning of a hand screw, the water can be made to flow out in a widely distended spray in addition to the stream; the spray being at an angle of 30 degrees outward, and varying from 40 to 90 feet in diameter, according to pressure. This spray being a solid sheet of water, prevents smoke, heat, cinders, or gases from coming through, and behind it the pipeman stands absolutely protected. The direct stream can be cut off and the whole volume of water thrown as a dense spray—very wide and light, or heavy as desired, for driving smoke, flushing, light fires, irrigation, etc. In case it is desired to move the hose from one place to another, the water can be shut off entirely at the nozzle and the change made, thereby saving damage by water. All these changes can be made instantly. The cut shows stream and spray together, side view. The nozzle is now in use in several fire departments and mills and is highly spoken of. The F. and F. Nozzle Co., capitalized at $125,000, were incorporated April 21, under the laws of New Jersey. The headquarters are at Newburgh, N. Y. The officers are: President, Patrick Egan (late United States minister to Chile); vice president, Cornelius L. Waring; treasurer, Charles T. Goodrich; secretary and manager, D. G. Tierney.



THE F. AND F. NOZZLE.

THE NEW VACATION SHOE.

THE latest addition to the tennis shoe list has been named the "Vacation." It is not designed to take the place of any of the other tennis shoes made by the same company, but rather to supply a demand never before quite met—a demand for a light summer shoe, which at the same time should be particularly strong and adapted to very hard wear. This shoe has an extra heavy heel and sole, the heel being extended at the back and the sole extended at the toe, giving the shoe still greater protection—just the sort of shoe for the roughest out-door exercise. It is a "vacation" shoe for people who want to get all they can out of their vacation. It has a leather insole, which adds little to its weight, but much to its staunchness and comfort. It is made in white and brown duck, in both balmorals and oxfords, and in men's and boys' sizes. [United States Rubber Co., tennis department, No. 43 Bedford street, Boston.]

THE "PERPETUAL" RUBBER TREAD.

THERE is a certain demand for rubber tread attachments for bicycle pedals from riders who object to the rasping of pedal frame points and those who wish to reduce the vibration of riding as much as possible. The rubber tread attachment illustrated herewith is simple and can be placed on the pedal ina few seconds. The

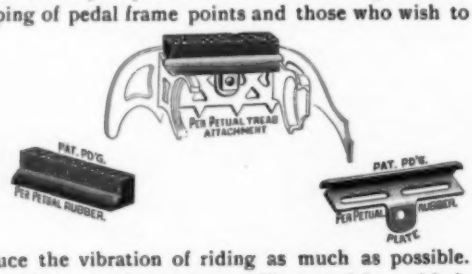


plate is always retained and the nut is locked against the plate so that one turn of a screwdriver secures the tread. The attachment can be placed on one or both sides of the pedal. [Edmonds, Metzel & Cole Manufacturing Co., No. 253 South Canal stret, Chicago.]

A NEW POCKET ATOMIZER.

THE accompanying cut illustrates the form of the "No. 36 W. T. & Co. Pocket Atomizer," for which a patent has been issued lately. It is designed for use in spraying medicinal oils or liquids. Distinctive features in its construction are its detachable cap and nasal tube of metal. As may be inferred from the illustration, this atomizer is particularly convenient in both form and size for carrying in the pocket. [Whitall, Tatum & Co., Nos. 46–48 Barclay street, New York.]

HAWTHORN'S STANDARD VALVE.

THIS valve, made in "style A," is designed for use in all pneumatic appliances in which it is desirable to avoid the use of a valve stem. Some such uses are in pneumatic horse collars, footballs, handle bars, saddles and the like, but the "Standard" is also available for cycle and automobile tires. For use on cycles and vehicles the valve may be inserted in the rubber tire, just clear of the wooden rim, thus obviating the weakening of the rim by drilling a hole for the stem, it being estimated that drilling a rim to admit a valve stem weakens the rim 50 per cent. or more at that point. Besides securing greater strength of rim through the use of style "A," all leakage of valve caused by creeping tires is avoided and, in the case of automobiles, the tire does not need to be bolted to the rim.

A

Valve, closed, as in use.

D1 Parts of Base.
D2

A1 Valve cap, for keeping out dust.

A2 Lock nut, for compressing wall of tire against base, and holding valve in place.

A3 Claw washer, to grip in the fabric of tire.

A4 Valve, proper.

A5 Base, flange of which goes inside of tire, is threaded externally for *A* 2 and internally for *A* 4.

D 1 is a cone-shaped rubber-bulb stretched over the end of *D* 2. It has a slit in the apex. It is practically the same kind of valve as nature uses in the veins of the human body, which allow the blood to pass through in one direction, but close against all attempts to pass in the opposite direction. This slit in the apex admits air under pressure, as from a pump, to pass through into the tire, but closes when this pressure is removed, and the air within the tire cannot pass out. This construction of valve brings a rubber to rubber seat, whereas, in other valves there is a rubber to metal seat. *D* 2 is a metal screw plug, threaded to screw into *A* 5. The Standard valve is also manufactured in two other styles—"B" and "C"—provided with stems, and designed to meet the demand for a stem valve of smaller diameter than any other hitherto in the market. In other respects the construction and operation of the valve are similar to style "A." They are less than ¼ inch in diameter, whereas other stem valves are $\frac{5}{16}$ to $\frac{7}{16}$ inch in diameter. [Hawthorn & Co., No. 136 Liberty street, New York.]

NEW BRUNSWICK THICK TREAD TIRES.

THE thick tread tires marketed by the New Brunswick Tire Co. are constructed with a view to standing hard treatment and rough roads, and withstanding punctures. A heavy, close woven fabric is used, the tread being reinforced by extra layers of fabric coated with rubber, and considerably increase the thickness of the rubber on the outside covering. These features have been developed without depriving the tires of the qualities of resiliency, speed, and comfort. The illustration herewith represents both the relation to each other of the various parts of the tire, and the trade mark.

NEW LINE OF LIGHT WEIGHT RUBBERS.

A NEW line of specialties in light rubber footwear is being introduced this season by the Goodyear's India Rubber Glove Manufacturing Co., who for many years past have been in the front rank as producers of light weight rubbers of high quality. The new line is made practically without seams, thereby lessening the possibility of cracking in the vamp. The lining, also, is a little different from what is used ordinarily in rubber footwear, black silkaline being used throughout, which not only gives the shoes a particularly attractive appearance, but allows them to slip on the foot more readily. To sum up, these shoes are light in weight, they look well, and they are untearable. This new line being made for the benefit of the fine retail trade, the cost is somewhat higher, by reason of the better workmanship and the higher cost of materials than in standard grades of shoes. The new goods will be made in only a few styles this season, but will include the new military heel effect, to fit them to the latest styles in leather footwear. Two styles of men's shoes in the new line will be known as "Romeo" and "Dandy," and two for women as "Romeo" and "Petite."

AMERICAN RUBBER GOODS EXPORTS.

RETURNS have now come to hand of exports of rubber goods from the United States for nine months of the current fiscal year, the values being as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1899....	$51,535	$22,580	$ 99,918	$174,033
August	59,069	43,378	102,264	204,711
September....	42,858	34,233	122,959	200,050
October.....	52,643	34,894	106,223	193,760
November....	33,913	47,898	120,221	202,032
December ..	39,051	40,426	101,771	181,248
January, 1900.	40,137	30,452	94,886	165,475
February. ...	38,724	27,246	128,017	193,987
March	39,749	30,866	140,353	210,968
Total.	$397,679	$311,973	$1,016,612	$1,726,264

The exports of rubber goods of all kinds for the corresponding nine months of 1898–99 reached a total value of only $1,255,393. The rate of increase is 37½ per cent. The exports of rubber shoes during the nine months amounted to 572,952 pairs, against 379,119 pairs in the first nine months of the preceding fiscal year—an increase of 51 per cent.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED APRIL 3, 1900.

NO. 646,413. Mold for making cushion tires or other rubber articles. Jules A. Collet, New York city.

646,415. Machine for outlining and grading boot and shoe patterns. Louis Cote and Louis E. Cote, St. Hyacinthe, Canada; said Louis E. Cote assignor to said Louis Cote.

646,473. Bicycle tire. Milton E. Stacy, Boston, Ga., assignor to Furney C. Ivey, same place.

646,534. Cushioned horseshoe. James M. Camp, Des Moines, Iowa.

646 572. Bath cabinet. Archibald C. Floyd, Chattanooga, Tenn.

646 590. Hose or pipe coupling. Wm D. Williams, St. Louis, Mo.

646,610. Pneumatic tire repairing apparatus. Frank A. Seiberling, Akron, Ohio, assignor to the Goodyear Tire and Rubber Co.

646,709-646,710. Pneumatic tire. Frank A. Seiberling, Akron, Ohio.

646,771. Elastic trousers hanger. William B. Tyler, Camden, N. J.

646,797. Piston rod packing. Morris E. Briggs, Alameda, Cal., assignor to the Badische Anilin und Soda Fabrik, Ludwigshafen, Germany.

646,887. Electric signaling device for hydraulic hose. Benjamin L. Stowe and John J. Voorhees, Jersey City, N. J.

ISSUED APRIL 10, 1900.

646,935. Pneumatic tire for wheels. John Adair, Waterford, Ireland.

647,098. Cellular elastic tire. Arthur Kitson, Philadelphia.

647,112. Composition of cork and rubber for boot heels. James J. Pearson, New York city.

647,119. Process for compounding fillings for rubber tires. Theodore Seehausen, Helsingborg, Sweden.

647,190. Pneumatic tire. Richard Lins, Magdeburg, and Adolf Gunther, Berlin, Germany.

647,213. Bicycle tire. Robert Barrie, Philadelphia.

ISSUED APRIL 17, 1900.

647,484. Rubber tire for vehicles. Samuel G. Dorr, Buffalo, N. Y.

647,613. Secret purse. Claus F. E. Ruge, Hamburg, Germany.

647,643. Pneumatic tire. Edgar M. Birdsall, Buffalo, N. Y., assignor to De Witt H. Bothwell, Toledo, Ohio.

647,659. Rubber tread tire for vehicles. John Hallam, New York city.

647,693. Hose coupling. Clayton H. Blantz, Lebanon, Pa.

647,742. Valve for pneumatic tires. Clarence S. Brewster and Gustav Raflovice, Boston.

647,873. Mat or cushion for sliding poles. Edward L. Perry, Paterson, N. J.

647,916. Rubber packing. Louis P. Destribats, Watertown, Mass., assignor of one-half to Herbert N. Wayne, Newton, Mass.

ISSUED APRIL 24, 1900.

647,987. Tire for bicycle or other vehicles. Edward S. Roney, Toronto, Canada.

648,021. Tire. John W. D. Carslaw, Chicago, assignor of one-half to John C. Smith, same place.

648,236. Horseshoe pad. Albert H. Buch, Louisville, Ky.

648,276. Horseshoe. Henry E. Mereness, Albany, N. Y.

648,369. Pneumatic tire. Fred B. Parks, Grand Rapids, Mich.

TRADE MARKS.

34,401. Rubber footwear (Sylph). Hood Rubber Co., Boston, April 3, 1900.

34,480. Certain named rubber masks. (The representation of a face mask with ribbons attached to edge thereof, and brought together behind the mask.) The Miller Rubber Manufacturing Co., Akron, Ohio, April 17, 1900.

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1900.

3,755. Theodore Holme, Raglan house, Burseley, Glos. Method for providing car wheel with an India-rubber ring. [Hans Christian Pedersen, Silversleth, Denmark.] February 27.

3,794. Edward Boyd Hargreaves and Thomas Head, 168, Fleet street, London. Improvements in horse clothing. February 27.

3,798. Thomas Wright, 45, Friar street, Worcester. Improvements in elastic wheel tires. February 27.

3,805. Edmond Felix Marie François, 18, Buckingham street, Strand, London. Improvements in removable bands for consolidating defective or damaged pneumatic tires. February 27.

3,827. Claude Gautier, 70, Chancery lane, London. New casing for pneumatic tires. February 27.

3,851. The Swain Patents Syndicate, Ltd., and Walter Swain, Keighley. Improvements in machinery for use in manufacture of pneumatic tires. February 28.

3,879. Thomas Sloper, Devizes, Wilts. Improvements in wheel tires. February 28.

3,920. Henry Harris Lake, 45, Southampton buildings, London. Improvements in machines for marking and cutting boot and shoe patterns. [Louis Cote, Canada.] February 28.

3,989. Hannibal Buchignani, 40, Chancery lane, London. Improvements in pneumatic tires. March 1.

4,014. Patrick Moylan, 206, Herbert road, Birmingham. Improved solution for adhering rubber to cycle wheels and to metals of all kinds. March 2.

4,128. Wallace Henry Paull, Birmingham. Improvements in pneumatic tires. March 5.

4,186. Anthony Pulbrook and Emily Henrietta Pulbrook, 115, Cannon street, London. Improvements in rims and inflatable tires. March 5.

4,203. Edward Harvey Webster, Kingston-on-Thames. Improvements in grinding mills. March 6.

4,233. Frederick Dicker and William James Johnson, 5, Corporation street, Birmingham. Improved valve for pneumatic tires. March 6.

4,347. William Howard and Herbert Theodore Waterman, Holborn, London. Football tire for motor car and cycle wheels. March 7.

4,544. William Kennedy Peters, 1, Queen Victoria street, London. Improvements in pumps for inflating pneumatic tires. March 9.

4,588. John Saville, Dukinfield. Improved air valve for pneumatic tires. March 10.

4,594. Philip Arthur Newton, Chancery lane, London. Improved sewing machine attachment for the manufacture of light shoes. [John Keats, France.] March 10.

4,777. Edwin Oddy, Clockheaton, Yorks. Improvements in the manufacture of seamless tubing from substances which can be treated in a viscous state. March 13.

4,797. Hugh Norman, 6, Lord street, Liverpool. Improvements in or relating to the strengthening or repairing of pneumatic tires. March 13.

4,834. Valentine Pfister and James Wilson Addyman, 30, Park row, Leeds. Improvements in the method of and machinery or apparatus for cutting sheets of rubber into strips applicable in connection with the manufacture of pneumatic tires. March 14.

4,849. George Herbert Little, 62, St. Martin's lane, London. Improved tire for driving wheels of light automobiles. March 14.

4,891. William Durkin and Herbert Garland, Cheshire. Improvements in waterproof covers for bicycle or other saddles. March 15.

4,958. James John Pearson, 46, Lincoln's Inn Fields, London. Resilized rubber. March 15.

5,138. The Radax Pneumatic Tyre Co., Limited, and William Caldwell, Southampton buildings, London. Improvements in looms for the manufacture of textile fabrics for the outer covers of pneumatic tires. March 17.

PATENTS GRANTED.—APPLICATIONS OF 1900.

22,553. Non Slipping Cover for Pneumatic Tire. Funkenberg, G. Elberfeld, Germany. February 21.

22,619. Pneumatic Tire Cover. Morris, W., 27, Rennie street, Liverpool. February 21.

22,680. Means for Attaching Tires to Rims. Hubbard, J., Upper Holloway, London. February 21.

22,743. Pneumatic Tire. Challiner, C., Manchester. February 21.

22,814. Pneumatic Tire. Steward, W. A., Highgate, London. Feb. 21.

HEARD AND SEEN IN THE TRADE.

THE problem of what is to be the standard type of automobile tires apparently is no nearer settlement than when it first began to be studied seriously, except that some form of pneumatic tire seems certain to be demanded for pleasure vehicles, while a tire less liable to injuries will suffice for freight wagons. But all must have rubber tires of some kind, if only for the protection of the delicate mechanism involved in the construction of the self propelling vehicles. I asked an expert in the employ of what is probably the most progressive and most advanced of the automobile manufacturing concerns in the United States for some information with regard to results obtained in his laboratory in the testing of various types of rubber tires, and his answer was: "We have plenty of data, but as yet no results which we would like to defend. The tests up to date are only just beginning to indicate the lines along which laws are developing. It may be many months before it would be either appropriate or useful to you for me to accede to your request." There is a feeling in the trade, however, that by the time the carriage exhibitions come around again in November, a few surprises may be ready in the shape of tires for automobiles.

* * *

"WHAT is the prospect, from your standpoint, for lower prices of crude rubber?" I asked a manufacturer.

"Prices will become lower, I think. They would be lower now but for the unquestionable fact that by concerted action holders of rubber always are able to control the market to a certain extent. The sources of rubber and the supplies being limited, it becomes possible for the importing interests to gain possession of practically all that is produced. If manufacturers refrain from buying, on account of the price at any given time, the importers have capital enough—besides being able to borrow money on a commodity so valuable and which is not perishable—to carry their rubber in stock, knowing that the manufacturers will be forced, in time, to buy in order to fill pressing requirements. I should say that Pará rubber as a rule is from 5 to 10 cents a pound higher than it would be, but for these considerations. This means from $100 to $200 a ton. Even if importers are not interested in raising prices, they have an inducement to try to prevent a decline at any time. If they have sold for forward delivery at a certain price, and the market should decline meanwhile, manufacturers might feel dissatisfied at having to accept rubber at a higher figure than the prevailing rate. Now all these considerations are likely to apply in future as in the past. Why I think that rubber prices are likely to decline—not largely, but yet to an extent which will help manufacturers materially—is the fact that the world's production of rubber is increasing, while the rate of consumption which has been evident for two years past is not likely to continue. Doubtless the American rubber industry will consume as much rubber in 1900 as in 1899, but not any more. I think that the highest point in this respect has been reached for the present. The past year has been a prosperous one for industries generally. But the general tendency is indicated by the declining prices of steel. Iron products generally are the first to show an advance in price—which means an increasing demand for them, due to general improvement in business—and they are also the first to show a decline. But too sharp a fall in the price of crude rubber would not be an unmixed blessing to the manufacturer. There are some buyers of rubber goods who keep a watch on the rubber market, and who want cheaper goods the minute the raw material drops a cent on the pound, though these same buyers are not always willing to pay more for goods in the face of a 5 cent advance in rubber."

* * *

A MEMBER of a rubber importing firm, on the same day, said to me: "The prospects seem to us to point to higher prices for rubber. Manufacturers have refrained from buying for some time past beyond their immediate current requirements, and they have been still more encouraged in this 'from hand to mouth' policy in buying because of the recent offering in this market of rubber at a considerable decline. We know, however, that sellers at 98 cents have paid $1.02 for rubber with which to cover their contracts, which would indicate that the decline is at an end. Now that greater activity among the factories is setting in, and manufacturers as a rule are not well supplied with stocks, they must begin to buy more liberally, and this condition alone will have a tendency to stiffen prices. It must be remembered, too, that the producing season is at an end, that receipts from the Pará market, at least, must continue light until the next crop year is well under way." The same importer said that no appreciable effect upon the rubber market here or abroad had resulted from the troubles in the rubber country bordering on the river Acre, in eastern Bolivia, where the gathering of rubber had been reported to have been interfered with.

* * *

AN effort was made recently, by a man interested in studying the outlook for the cultivation of India-rubber, to learn the attitude of the rubber importers toward this subject. "I feel that they are not inclined to regard the matter with any interest," he said to me, later. "It is natural that the rubber importer, having all his capital tied up in his present business, with the possibility of immediate returns, should not feel disposed to withdraw a portion of it for investment in rubber plantations, which could not become productive for several years. But aside from this, I feel that the handlers of crude rubber view the cultural proposition with an unfriendly eye. The success of the plantations now under way in Mexico and Central America will mean, in a very few years more, a material increase in the rubber output from those countries. As soon as this fact becomes apparent there will be, without question, a large influx of foreign capital for the creation of more plantations, for any sort of success will insure better returns from rubber than are now possible from coffee in any country. Today it is difficult to interest capital in rubber, because capitalists as a rule are ignorant even of the existence of the plantations which actually exist and which are confidently expected by their owners to yield rubber as soon as the trees are seven or eight years years old. As soon as any cultivated rubber begins to reach the markets, however, the whole world will know it. Now the apparent unfriendly attitude of the importers seems to be due to the fact that as soon as manufacturers can buy Mexican or Central rubbers in good sized lots, practically from the growers, they are likely to try to avoid paying any importer's profits. It seems to me that the better course for the handlers of rubber here would be to foster the cultural idea, with a view to being ready, as soon as there are any definite results, to control the sale of the crops to the consumer."

THE MAN ABOUT TOWN.

ANNUAL MEETING OF THE UNITED STATES RUBBER CO.

THE eighth annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock M., on May 15, at the registered offices of the company in New Jersey, at New Brunswick. The following reports by officials of the company were presented:

PRESIDENT'S REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Reviewing the general business and condition of the company, in conformity with the by-laws, the president reports as follows:

The business of the year presents some remarkable features. In the mid-winter, it appeared that perhaps the amount of sales would be smaller than those of the previous year, but the total result proves the contrary, and the business has been most satisfactory. The loss by bad debts during the year is also remarkable in that it amounts to less than one one-hundredth of 1 per cent., of the total sales, a most gratifying evidence of the prosperity of the trade with which we have dealings.

The relations between the company and the employés in the manufacturing departments, and with customers, continue harmonious and friendly.

In the matter of the claims referred to in the last annual report, progress has been made towards settlements, but the final adjustment of them has not yet been reached.

The treasurer's report, showing the financial condition of the company March 31, 1900, and the operations for the fiscal year, is appended. Respectfully submitted,

FREDERICK M. SHEPARD,
President.

New Brunswick, N. J., May 15, 1900.

TREASURER'S REPORT.

THE following balance sheet shows the condition of the company March 31, 1900, together with comparison of same with previous year:

ASSETS.

	March 31, 1900.	March 31, 1899.
Cash	$ 628,630.84	$ 557,666.79
Notes and accounts receivable	1,887,506.78	1,799,155.88
Merchandise on hand	1,394,019.73	1,617,609.85
Investments	46,961,536.05	46,910,508.78
[Total]	$50,871,993.40	$50,884,941.30

LIABILITIES.

Preferred Stock	$23,525,500.00	$23,525,500.00
Common Stock	23,666,000.00	23,666,000.00
Accounts Payable	1,417,094.75	1,711,263.50
Due Companies for goods sold	253,015.04	217,634.84
[Total]	$48,861,609.79	$49,120,398.34
Balance	2,010,383.61	1,764,542.96
Reserved for dividends in April and July	1,177,680.00	941,020.00
Surplus	$832,703.61	$823,522.96

OPERATIONS OF THE UNITED STATES RUBBER CO., FOR THE YEAR ENDING MARCH 31, 1900.

Surplus March 31, 1899		$823,522.96
Profits from operating plants and dividends on investments	$2,246,030.42	
Net income from commissions on sales of goods	987,743.19	
Total income	$3,233,773.61	
Less total expenses	225,886.07	
		$3,007,887.54
		3,831,410.50

DIVIDENDS.

On Preferred Stock:		
Paid October 31, 1899	$470,510.00	
Paid January 31, 1900	470,510.00	
To be paid April, 1900	470,510.00	
To be paid July, 1900	470,510.00	
		$1,882,040.00
On Common Stock:		
Paid July 31, 1899	$236,660.00	
Paid October 31, 1899	236,660.00	
Paid January 31, 1900	236,660.00	
To be paid April, 1900	236,660.00	$946,640.00
Total dividends		$2,828,680.00
		$1,002,730.50
Charged for depreciation and losses		170,026.89
Surplus		$832,703.61

CHAS. R. FLINT,
Treasurer.

The undivided earnings in the treasuries of the manufacturing companies in which this company has investments, after charging off for depreciation, are now	$2,689,367.81

[The treasurer's report is certified to by Bragg & Marin, public accountants, after an examination of the books and accounts of the company.]

THE ANNUAL ELECTION.

THE election of directors resulted in continuing the old board in office, except that no election was held to fill the vacancy caused by the death of Mahlon C. Martin, in April last. The board thus consists now of only sixteen members, although at the annual meeting in 1899 an amendment to the by-laws was adopted, authorizing an increase in the number of directors from fifteen to nineteen. The figures in parenthesis following the names of the directors indicate the number of terms for which each has been elected, to date:

1. SAMUEL P. COLT, Providence, R. I. (9)
2. ELISHA S. CONVERSE, Boston, Mass. (3)
3. HENRY E. CONVERSE, Boston, Mass. (3)
4. CHARLES R. FLINT, New York city. (9)
5. JAMES B. FORD, New York city. (9)
6. J. HOWARD FORD, New York city. (9)
7. ROBERT M. GALLAWAY, New York city. (9)
8. HENRY L. HOTCHKISS, New Haven, Conn. (9)
9. CHARLES L. JOHNSON, New Haven, Conn. (9)
10. LESTER LELAND, Boston, Mass. (2)
11. FREDERICK C. SAYLES, Providence, R. I. (2)
12. FREDERICK M. SHEPARD, East Orange, N. J. (9)
13. CHARLES STEWART SMITH, New York city. (5)
14. JOHN D. VERMEULE, New York city (4)
15. GEORGE E. WEED, New York city. (4)
16. SAMUEL N. WILLIAMS, Williamsport, Pa. (9)

At a meeting of the directors held in New York on May 24, the officers of the company were reëlected as follows:

President—Frederick M. Shepard.
Vice President—James B. Ford.
Secretary—Samuel P. Colt.
Treasurer—Charles R. Flint.
Assistant Treasurer—H. M. Sadler, Jr.

The members of the executive committee are as follows: Frederick M. Shepard, James B. Ford. Charles R. Flint, Samuel P. Colt, Lester Leland, Charles L. Johnson, and John D. Vermeule.

THE Berlin Rubber Manufacturing Co., Limited (Berlin, Ontario), whose business year closed on March 31, feel much encouraged in their manufacture of rubber footwear, which was begun during the past year.

RUBBER SCRAP IN AMERICA AND ABROAD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I understand that the rubber reclaimers in the United States have been trying to fix a minimum price for rubber scrap, by which I suppose is meant particularly rubber boots and shoes. Several years ago the writer happened to be engaged on an important scale in handling rubber scrap. We used then not only to buy in all parts of Europe, but had also agents in America for the purpose of buying up scrap there. At that time mechanical scrap was a readily saleable commodity in Europe; I should say more so than in the States, where shoe stock was practically the only article which commanded a ready sale and good prices. It paid us then to import scrap from the United States and sell it in the European markets. Whether this position is altered now I cannot say, for it is a long time since I had any dealings in scrap rubber at all. At that time we shipped considerable quantities of shoe stock from Eastern Europe to the United States.

There is no doubt that the consumption of mechanical rubber scrap in Europe has fallen off considerably of late, particularly so on account of the introduction of the pneumatic tire in lieu of the old fashioned solid and cushioned tires, in the composition of which rubber scrap entered largely.

As regards reclaimed rubber, there is still a considerable quantity used in European factories. The bulk of it still comes from the United States, as the stock produced there is more regular and can be more easily assimilated in the manufacture of rubber goods than similar stock made in Europe.

There have been numerous attempts made to substitute for American reclaimed stock the reclaimed rubber manufactured in England and on the continent, but the sale of such European made reclaimed rubber is limited to a certain number of factories manufacturing their own reclaimed rubber; a great number of them use their own vulcanized scrap in powder, without reclaiming it, as a simple compound.

Contrary to what seem to be the views expressed in the United States, I am of the opinion that your reclaimers have nothing to fear from any competition on behalf of European reclaimers for the boot and shoe stock. The reclaiming business here is in the hands of comparatively small concerns, who would in the best of cases not be competitors to be in any way taken seriously. Why, they cannot even absorb the Russian shoe stock, which goes almost completely to the United States at the present moment.

What puzzles me, however, is that none of the American reclaiming works have ever thought of erecting works in Europe, and England for preference. If such works were erected here, fitted up with the most perfect American machinery and worked by an experienced manager from the States, I believe the whole of the output could be easily placed on the European market at remunerative prices. Land, buildings, labor, freight—everything in fact would be in favor of such an undertaking, and, considering that the selling value of this article is only a few cents per pound, however cheap the trans-Atlantic freight may be, it still is an item of considerable importance and represents a heavy percentage of the market price of the article.

A rubber firm here with whom I am closely acquainted are doing a very large trade in American reclaimed rubber, both in England and on the continent. I feel sure that this trade could be much increased by the establishment of a factory here.

The qualities of reclaimed rubber that are sold in Europe differ considerably from what is sold in the States. If my memory serves me rightly, large quantities of low grade rubber stock are entering into the composition of your packing—which here is called "insertion sheet." This grade is apparently made from the lowest grade of rubber scrap, and is not sold in Europe, as most of the works have a large quantity of clippings, of both unvulcanized and vulcanized goods, which are ground up again and used in manufacturing. What are sold here are better grades, ranging in price from about 8 to 15 cents per pound. The sale of these grades is on the increase on this side, as the high price of crude rubber has driven manufacturers to use compounds to a greater extent in their manufactures, and American sheet has been found fairly reliable and even from delivery to delivery, so that it eminently lends itself to European consumption.

A. B. C.

London, May 9, 1900.

PRICES IN THE UNITED STATES.

PRICES of rubber shoe scrap have risen since the failure of the combination, some sales having been reported in the latter part of May at 10c. All the buyers are not participating, and prices evidently are to a certain extent artificial and bound to decline.

THE attempt of the rubber reclaiming trade to get together on the basis of an agreement to keep down prices was bound to end in failure," said a member of a New York firm who handle imported scrap on a large scale, to a member of THE INDIA RUBBER WORLD'S staff. "You know what price was suggested in the market here," he continued "and at that moment it was impossible to buy scrap for that figure anywhere in Europe. Old rubber shoes are changing hands to day in Hamburg [May 18] at an equivalent of 7¼ cents a pound. My house have had offers of large business from American grinders, if we would deliver the imported goods c. i. f. New York at 8 cents. We cabled the offers, but without any takers. The consumption of rubber scrap in Europe is steadily on the increase, which means that the excess available for the American market is growing less. And it means that prices are going up. I expect to see imported old rubber shoes reach 10 cents a pound in the New York market this summer."

Regarding the recent meetings in the rubber scrap trade, *The Commercial Bulletin* (Boston) said lately: "Practically the only thing that remains of the association after a brief existence of about four weeks is its organization and the standard packing. This last is a commendable feature and will probably be adhered to by both buyers and sellers. The trouble with the trust was that it failed to appreciate the scarcity of old rubber just at present and the increased uses to which it can be put. Local dealers who have been able to get stock have been selling at 7 cents right along, and this week [May 5] have been paying collectors that figure, turning the stock over at 7¼@7½. The demand for rubber isn't particularly heavy just now because so many mills are shut down, but the small volume of receipts clearly shows that any increase in demand will quickly clean up the market. Several dealers have withdrawn from the market; they are making deliveries on orders, but as soon as these are disposed of they will not offer stock, preferring it should accumulate for a higher price, which they look for. It is said in the trade that even while the trust prices were nominally in force they were not adhered to and that premiums were offered sellers to get stock."

RUBBER COMPANIES IN LITIGATION.

THE heirs of Joseph Banigan on April 30, at Providence, R. I., filed a suit against the United States Rubber Co. and attached the local bank account of the company and also its shares in the Woonsocket Rubber Co. and the National India Rubber Co. The amount involved is $3,000,000, and the plaintiffs sue as former stockholders in the Woonsocket Rubber Co., alleging that, in acquiring this concern, the United States Rubber Co. failed to make good its guarantee that the Woonsocket stockholders should receive as much for every dollar of net assets turned over as was paid for any other concern that went into the combination.

* * *

WHEN the suit of Banigan *v.* Woonsocket Rubber Co., on a promissory note for $100,000, filed August 8, 1896, came to trial, the defendant pleaded in set-off a claim it had against Mr. Banigan growing out of unsettled accounts of the Woonsocket company. The matter was carried to the appellate court, where it was held that, since the Woonsocket company had, also on August 8, 1896, filed a suit against Mr. Banigan based upon these accounts, the defendant could not maintain, as it sought to do, two suits for the same claim. The case was then tried in the common pleas court, where decision was given in favor of Mr. Banigan's estate, on the ground that no legal defence had been made, the court refusing to permit the defendant to file a rejoinder that the suit against Mr. Banigan had been withdrawn. Against this action an appeal was taken, and in the appellate court at Providence, on May 5, the decision of the lower court was set aside, on the ground that the defendant should have been allowed to file the rejoinder referred to. A new trial is granted and the case remitted to the common pleas division.

* * *

TESTIMONY is being taken, in the form of depositions, in a suit for $30,000 damages, brought by Kelley, Maus & Co., engaged in the carriage and tire trade, in Chicago, against the Hartford Rubber Works Co., on an allegation that certain solid rubber vehicle tires made for the former by the latter company were not of the proper quality. The tire contract dates from the spring of 1897. After a certain quantity had been delivered, the manufacturers made a demand for payment of $6000 on account, which was followed by the suit referred to. The suit is being vigorously contested by the Hartford company.

* * *

THE United States circuit court of appeals has affirmed a second time the decision of Judge Townsend in the United States circuit court at Hartford relative to the ownership of 76 shares of stock in the Seamless Rubber Co., which had been in litigation for several years, to the effect that said stock belonged to Earle Brothers. The details involved were summarized in THE INDIA RUBBER WORLD of September 1, 1899 [page 352.]

* * *

THE newspapers report that the sheriff of New York has received an attachment for $23,000 against The India Rubber Co. (Akron, Ohio) in favor of Edward A. Katz on an assigned claim from the Manhattan Storage Co. of Philadelphia, for alleged breach of contract in non-delivery of 20,000 single tube tires.

THE recent automobile race between Nice and Draguignan, France, and return, in class D (cars exceeding 1000 kilograms in weight), was won by M. Stead in 3 hours and 58 minutes, in a car fitted with 90 and 120 millimeter "Continental" motor tires, made by The Continental Caoutchouc and Guttapercha Co., of Hanover.

NEW TRADE PUBLICATIONS.

THE EUREKA FIRE HOSE CO. (New York), manufacturers of the "Eureka," "Paragon," and "Red Cross" brands of fine hose, have compiled in an attractively printed book a large number of testimonials in relation to the quality and durability of this hose, from fire department officials throughout the United States. Such communications are presented from eighty-five cities, in twenty-three states, ranging from Maine to California and from Minnesota to Louisiana. These testimonials are prefaced with a description of each brand of hose and followed by statistics of interest in regard to the Eureka company's sales of hose from 1875 to 1900. [5″×12½″. 24 pages.]

GOODYEAR RUBBER CO. (St. Paul, Minn.) issue a new illustrated catalogue of mackintoshes and rubber and oil clothing, made under their "Gold Seal" brand, being their catalogue No. 173. [4¼″×7″. 40 pages.] Their catalogue No. 174 is an illustrated price list of rubber boots and shoes, enumerating a very complete line of footwear, including many special brands. [4″×7″. 104 pages.]

LAMKIN & FOSTER (Nos. 174-178 Congress street, Boston), New England agents for the rubber boots and shoes made by the Goodyear's India Rubber Glove Manufacturing Co., send us a handsome illustrated priced catalogue of this line. The Goodyear Glove Company not manufacturing any "seconds," Lamkin & Foster carry in stock also the "Rhode Island" brand. [4⅝″×7¼″. 20 pages.]

THE NATIONAL CONDUIT AND CABLE CO. (New York) have issued a new catalogue of wrought iron cement lined conduits for electrical subways, and paper insulated wires and cables for electric lighting and power transmitting, which is interesting, as showing to what a great extent the use of paper insulation has grown. It is elaborately illustrated with photogravures of a variety of installations made by the company, and also of sections of cables made for different uses—the latter printed in colors, to distinguish the copper conductors, the paper insulation, and the lead sheathing. [10⅞″×8½″. 128 pages.]

H. B. HANFORD CO. (Nos. 40-42 North Third street, Philadelphia), selling agents in their territory for the Goodyear's India Rubber Glove Manufacturing Co.'s boots and shoes, issue a specially attractive catalogue of this line, with list and net prices, and conveniently arranged details as to widths and sizes. [6″×7″. 54 pages.]

THE WELLMAN SOLE CUTTING MACHINE CO. (Medford, Mass.) have issued a new catalogue illustrating and describing their machine as made with recently patented improvements—known as "System C." Two machines are now made, one for cutting taps, the other for cutting all kinds of soles, whether plain or embossed, large or small. These machines have become indispensable in a very important branch of the rubber industry, and the new catalogue is a very comprehensive summary of the method of construction and operation. A price list is included. [9″×11⅞″. 18 pages.]

ALSO RECEIVED.

G. & J. TIRE CO., Indianapolis, Ind.=The Great G. & J. Tire. [Description and price list] 16 p.

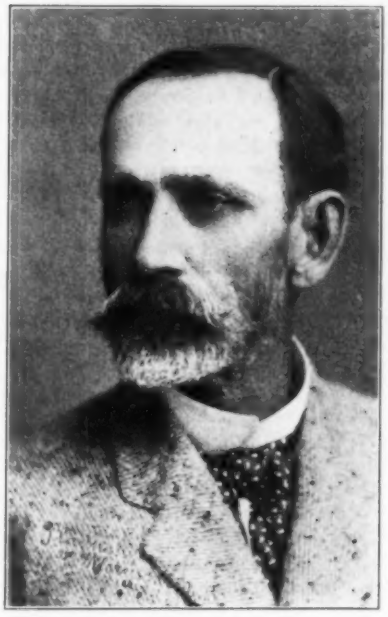
Non Puncturable Tire Co., Inc., Rochester, N. Y.=Rochester Non Puncturable Tire. 16 p.

New Brunswick Tire Co., New Brunswick, N. J.=New Brunswick Tires, 1900. 12 p.

Harrison C. Frost, No. 170 Summer street, Boston=The Frost Patent Pneu-Solid Sectional and Separate Tread Rubber Tire, for Vehicles and Automobiles. 16 p.

THE OBITUARY RECORD.

THE death is announced of WILLIAM ERSKINE BARTLETT, managing director of the North British Rubber Co., Limited, the great rubber concern in Edinburgh, Scotland, which was founded in 1858, at first with American capital and through the enterprise of Americans interested in the rubber industry. Mr. Bartlett, who went to Edinburgh in 1868, was a native of Massachusetts, and, so far as is known, retained his American citizenship to the end. On July 24, 1889, there was issued to Mr. Bartlett, in England, the first of a series of patents which gave his "Clincher" tires an important place in the bicycle industry, besides adding greatly to the profits of his company. For several years Mr. Bartlett had been compelled, by ill-health, to leave much of the details of business to others, including the assistant superintendent, Robert G. Stewart, a native of Scotland. Mr. Bartlett died on May 4. He is survived by a widow and four daughters.



WILLIAM ERSKINE BARTLETT.

CHARLES A. CHEEVER, eldest son of John H. Cheever, the founder of the New York Belting and Packing Co., Limited, died of heart failure on May 2, in his forty-eighth year, at his father's residence, "Wave Crest," Far Rockaway, Long Island. He was for some time associated with his father, assisted in the organization and earlier management of the Okonite company, and later was interested in an important way in the electrical trades, but recently had not been engaged actively in business. Despite an infirmity which prevented him from walking, Mr. Cheever was a good helmsman, an excellent shot, and took the keenest interest in sporting matters. He was commonly known as "Commodore" Cheever, on account of having been for years commodore of the old Rockaway Yacht Club. He was also gifted with an alert intellect, and was a widely read and cultivated man.

HERMAN S. BASSETT, son of Theodore S. Bassett, of the United States Rubber Reclaiming Works, and for several years past selling agent for that company, with offices in New York and Boston, died suddenly in the former city, on the evening of May 20, of heart failure, in his thirty-third year. Mr. Bassett was a man of many engaging qualities, had a host of friends, and was in apparently the best of health up to the time of his death. The interment, at Derby, Conn., his native town, on May 22, was attended by many members of the rubber trade. Mr. Bassett is survived by a wife and two children. Mr. Bassett had just been nominated for membership in the New England Rubber Co. A committee of the club, appointed for the purpose, reported this resolution, which was adopted and spred upon the records of the club:

Resolved, That in the death of Mr. Bassett the rubber trade of New England has sustained a severe loss. A young man of much promise, genial and friendly, full of kindness and commercial tact, with a future before him of great usefulness, his untimely end fills us all with extreme sorrow.

NICHOLAS D. WILLIAMSON, who had been connected for nine years with the New York branch of the New Jersey Car Spring and Rubber Co., died on May 17. He was a native of Trenton, N. J., and had been employed at one time by the old Trenton Rubber Co. The remains were taken to Trenton, where the interment occurred on May 19. Mr. Williamson was an exceptionally popular man in the trade, having many warm friends throughout the country.

COLONEL ALANSON B. CASE, who died at Tacoma, Wash., on May 11, had lived in that city since 1888. He established the first wholesale rubber and belting house in that section—the firm of A. B. Case & Co., succeeded in time by the Washington Rubber Co., who are still in business at Tacoma. During President Cleveland's second administration Colonel Case was postmaster at Tacoma, and recently he has not been active in business. He was born at Rochester, N. Y., and lived later in Michigan, from which state he enlisted in the civil war.

DR. J. HABIRSHAW, a brother of Dr. W. M. Habirshaw, and associated with him in the India Rubber and Gutta Percha Insulating Co. (New York), died on April 20.

ARTHUR WYMAN, aged 22 years, who lost his life by drowning in Jamaica Pond, Boston, May 19, was head shipper for George A. Alden & Co., rubber merchants. He was also a member of Company A, Fifth regiment, and was stationed at Camp Wetherill during the war with Spain.

RUBBER CABLE FOR THE PHILIPPINES.

THE announcement was made May 25 by the Safety Insulated Wire and Cable Co. (New York) that notice had been received from the war department in Washington of the acceptance of the company's bid for the construction of the first section of the Philippine cable. This section is to be 600 miles long and will cost $600,000. The contract calls for the delivery of the cable on shipboard at New York by September 4. The cable will be constructed at the company's plant in West Twenty-eighth street. The cable will be shipped to Manila on the transport *Burnside*, which is to be refitted into a cable steamer. The start on the work of laying the Pacific cable is to be made at Manila.

The Safety company also have a contract with the Mexican government for several thousand miles of cable, to be laid in the Gulf of California and along the coast of Mexico. This, the company's officers say, will be the longest cable ever sent out of this country. The success attending cable construction in this country has led the company to secure a site at Bergen Point, N. J., where a new plant is being erected, at which ships can load cable at the wharves of the plant.

AFTER careful tests C. J. Bailey (Boston) has discovered that a fine quality of red rubber is much less likely to be injured by perspiration and oils, he is therefore making all of his face brushes of red rubber. They are thus not only more durable but are much neater in appearance.

THE rate of duty on imports of rubber boots and shoes in the new customs schedule of Porto Rico is 4½ per cent., *ad valorem*.

NEWS OF THE AMERICAN RUBBER TRADE.

NEW RUBBER SHOE FACTORY IN THE WEST.

THE Grand Rapids Felt Boot Co. (Grand Rapids, Mich.) advise THE INDIA RUBBER WORLD that they are equipping a factory for the manufacture of rubber shoes. Their present intention is to make lumberman's goods, such as are sold with their felt boots. A contract for its construction was let on April 21. The main building will be 200 × 60 feet and three stories high. The contract for the rubber machinery was placed in February last. It is expected that the manufacture of shoes will begin by September 1. The Grand Rapids Felt Boot Co. were established in 1880, and incorporated in 1881. Their capital is $100,000, and their present capacity 300 cases of felt goods per day. The officers are: E. G. Studley, president, treasurer, and general manager; John A. Covode, secretary. The directorate includes also James E. Furman, Christian Bertsch, N. W. Northrop, and James Stuart. President Studley is reported by a local newspaper as saying: "Michigan is one of the best states in the union for the rubber shoe business; in fact, in proportion to the population, it is the best, and I can see no reason why a factory located here, with the territory of Michigan, Illinois, Ohio, and Indiana to draw from, could not do a business, when placed on a good footing, that would run anywhere from $500,000 to $1,000,000 annually, and which would be a splendid thing for the business interests of the city."

NEW RUBBER HOUSE IN INDIANAPOLIS.

THE Duckwell-Harman Rubber and Supply Co. (Indianapolis, Ind.), though only recently incorporated, have been in business since April, 1899. They are the Indiana selling agents for the Gutta Percha and Rubber Manufacturing Co.—being supplied from the Chicago branch—and also for leading manufacturers in various lines of supplies. Messrs. Duckwell and Harman are both young men who are not afraid of work, and have succeeded in building up a nice business. Their territory embraces about two-thirds of Indiana and portions of Ohio, Kentucky, and Illinois.

VOORHEES RUBBER GOODS IN ST. LOUIS.

THE Capen Belting and Rubber Co. have been organized, at No. 104 North Third street, St. Louis, with $20,000 capital, and have secured agencies for the Voorhees Rubber Manufacturing Co. (Jersey City, N. J.) and the New York Leather Belting Co George H. Capen is president; Edward L. Preetorius, vice president; and Wallace C. Capen, secretary and general manager. The latter has been for some time past successfully connected with the St. Louis branch of the New York Belting and Packing Co., Limited, as salesman. The new company have made application for incorporation under the laws of Missouri.

APSLEY RUBBER CO.

A CERTIFICATE was filed with the secretary of state of Massachusetts on April 23, of an increase in the capital stock from $100,000 to $200,000. This is to provide for the addition of rubber boots and shoes to the company's output. The new building erected for this purpose, which has been illustrated in THE INDIA RUBBER WORLD, is of brick, four stories high, 257 × 62 feet, and includes a tower 75 feet high which supports a 10,000 gallon water tank. There is also a boiler house, 2½ stories high and 34 × 40 feet, in which are installed two Biglow upright boilers of 175 horse power each, with space for two more boilers. Power is supplied by a 500 horse power George H. Corliss steam engine. The rubber machine was supplied by the Farrel Foundry and Machine Co. (Ansonia, Conn.) The first floor includes the boiler room and washing, grinding, and calendering machines, with a 12 horse power engine for special duty. The drying room and the cutting department are on the second floor. The third is devoted to the packing and shipping departments and the last room. On the fourth is the making room and also the varnishing and vulcanizing departments. A roof lantern seven feet high, extending the whole length of the building, aids in lighting and ventilating the factory. The building is equipped with a dynamo and 1200 electric lights, is steam heated, and supplied with automatic sprinklers. There is an elevator with 3000 pounds lifting capacity, and a stairway at each end of the building. Mr. Apsley first announced his intention of making rubber footwear in November last. Ground was broken for the new building on December 12, and the engine was run first on April 23. The architect was H. J. Prescott, and the building contractors William H. Pray & Co.—both of Boston. The building is conveniently situated with regard to the company's other buildings, and the grounds are attractively laid out, with walks and trees. A spur track to the factory has been built by the Boston and Maine railroad. Mr. Apsley has been manufacturing mackintoshes at Hudson, Mass., since 1883, beginning first as Apsley & Coffin. Buying out the interest of J. H. Coffin, he incorporated the Apsley Rubber Co. on February 29, 1892. Mr. Apsley is president and treasurer, and H. C. Norton, who has been with the business since 1891, and C. F. Hamilton, employed nearly as long, are the other directors. Milton T. Bailey, connected with the company for thirteen years, is secretary of the reorganized company. George Schlosser, as superintendent of the shoe department, completes the organization.

A REMOVAL IN PHILADELPHIA.

THE store of Goodyear's Rubber Belting and Packing Co. (Philadelphia), after forty years' occupancy of No. 308 Chestnut street, has been removed to larger and more conveniently located premises, at No. 724 Chestnut. This is the Philadelphia branch of the New York Belting and Packing Co., Limited, and covers the sale of a full line of rubber goods, including mackintoshes, at retail, under the management of Charles W. Sloan.

MONARCH RUBBER CO.

MOUNTED in a glass case, set in mahogany, over the desk of President Henry E. Wagoner, are a pair of women's and a pair of men's storm rubbers with the legend: "Made in St. Louis. These rubber shoes were made in St. Louis at our factory. They are the first two pairs of rubbers ever made west of the Alleghenies, at an outlay of $132,575.48 for buildings, machinery, and stock."

The company has withdrawn from the Western Shoe Jobbers' Association, and Mr. Wagoner has resigned the office of vice president of that organization. The reason given is that the Monarch Rubber Co. now manufacture their own rubbers, and no longer sell these goods on the same basis as the other members of the association.

RUBBERMEN AT A DINNER.

SEVERAL members of the rubber shoe trade, from different parts of the country, who happened to be in New York at the same time, were invited to dinner at the Waldorf-Astoria, on

the evening of May 2, by Charles L. Johnson, manager of sales of the United States Rubber Co. There were William E. Barker and Charles A. Coe, from Boston; F. C. Howlett, Syracuse, N. Y.; P. J. McEnroe and E. G. Stearns, Chicago; A. H. Krum, Detroit, Mich.; George W. Perry, St. Louis; E. H. Sprague and Z. T. Lindsay, Omaha, Neb.; William Morse, New York; and E. H. Paine, H. M. Sadler, Jr., John P. Lyons, and J. M. Gallaway, of the United States company. Following an enjoyable dinner were some surprises, likewise of an enjoyable nature. One was the presentation of a silver set, consisting of a gold lined silver bowl, on a silver plate, accompanied by a gold lined silver drinking cup, inscribed to Moorhouse Lindley Johnson, probably the youngest member of the trade anywhere—he having then reached the age of six days. Mr. Johnson responded felicitously, after which his guests drank the health of the young gentleman. The plate was handsomely engraved with an oak tree, the trunk of which was inscribed with the name of Mr. Paine, and the branches each with the name of one of the company's selling agents. Later Mr. Johnson, in behalf of the gentlemen in the party, presented to Mr. Paine a massive silver loving cup.

MODEL RUBBER CO.

IT is announced that the Boston firm of Rice & Hutchins, Incorporated, will be the distributors of the output of the Model Rubber Co. (Woonsocket, R. I.) The goods will be carried in each city where Rice & Hutchins have a branch house. The list of the firm's branches and agencies is now as follows:

The Atlas Shoe Co. ..... 110 Federal street, Boston.
The Manhattan Shoe Co. ..... 131 Duane street, New York.
Joseph J. Meany & Co. ..... 523 Market street, Philadelphia.
The Chesapeake Shoe Co. ..... 41 South Liberty street, Baltimore.
The Ohio Valley Shoe Co ..... 25 West Pearl street, Cincinnati.
The Michigan Shoe Co ..... 81 Jefferson avenue, Detroit.
The Continent Shoe Co. ..... 229 Monroe street, Chicago.
The St. Louis Shoe Co. ..... 1009 Washington avenue, St. Louis.

BYFIELD RUBBER CO.

FOLLOWING the purchase of additional real estate, as noted in the last INDIA RUBBER WORLD, this company has begun the erection on it of a three story building 50 × 125 feet. The company's factory is running full time, with a good lot of orders in hand. The new building will enable the company's capacity to be increased to 15,000 pairs of shoes daily. There is a report that the Byfield may engage soon in the manufacture of first and second grade shoes.

THE RECLAIMED RUBBER TRADE.

AN agent who is well posted in both crude rubber and reclaimed rubber matters, said recently to THE INDIA RUBBER WORLD: "There is no doubt but what old shoes are going to be higher for a little while. At the same time I doubt if the holders are aware that the falling matket in crude rubber is liable to prove a barrier against continued high price in their product. There is no question but that the great quantities of crude rubber in hand and due, particularly in the Antwerp market, will enable manufacturers in many lines of goods to do without reclaimed rubber, as low priced Africans or even Pará grades compounded will give equally good results at a lower cost than will high priced shoddy. Personally, therefore, I am not in the market for old shoes to-day."

RUBBER COMPANIES SUED FOR DAMAGES.

FREDERICK N. BOWDITCH, of Naugatuck, Conn., has brought suit against the Goodyear's Metallic Rubber Shoe Co. for $5000, damages claimed for injuries alleged to have been sustained while in the employ of the company, due to their failure to have an elevator shaft properly lighted.——Adaline Thornberry has sued the Indianapolis Rubber Co. for $25,000 damages, alleging injury to her health from inhaling fumes from certain chemicals used in the vulcanization department of the company's factory.——Fredrick Steinmetz, of Akron, Ohio, has sued the B. F. Goodrich Co. for $20,000 damages, for injuries alleged to have been received while repairing a steam pipe in the boiler room of the company's factory.——Edward Dizabeau has won his suit against the Newton Rubber Works (Boston) to recover damages for personal injuries received by him on September 3, 1896, while employed by defendant on an alleged dangerous machine in the factory, in an insufficient light.

REMOVAL OF THE ST. PAUL RUBBER CO.

DURING the past month the St. Paul Rubber Co. (St. Paul, Minn.) removed from the quarters which they had occupied for several years at the corner of Fifth and Robert streets, to the large building Nos. 220–226 East Third street. This building is 50 × 125 feet, five stories high and basement. Upon the front of the first floor there is a handsome suite of offices, and the remainder of the floor is devoted to mackintoshes and rubber clothing. The second floor is devoted to druggists' sundries and oiled goods. The three other floors are devoted to footwear. This company are said to occupy the largest space for rubber footwear of any similar house in the entire country. The firm are northwestern agents for the "American" and "Para" brands of rubber shoes. The St. Paul Rubber Co. were established twenty-three years ago and have since become incorporated. The officers are Albert Fischer, president; Rudolph Fischer, vice president; Jacob Hammer, secretary and treasurer; and H. N. Hodgman, assistant secretary and treasurer.

ALBERT FISCHER.
President St. Paul Rubber Co.

JOSEPH DIXON CRUCIBLE CO.

AT the annual meeting of the stockholders, at Jersey City, N. J., on April 16, the board of directors were reëlected: Edward F. C. Young, John A. Walker, Daniel T. Hoag, Richard Butler, William Murray, Alexander T. McGill, and Joseph D. Bedle. The directors then organized and reëlected the officers: Edward F. C. Young, president; John A. Walker, vice president and treasurer; George E. Long, secretary; Joseph D. Bedle, counsel.

MALDEN'S NEW THEATER.

THE Malden Auditorium, recently completed at Malden, Mass., provides that progressive little city with a handsome theater, as thoroughly equipped as any house of amusement in New England. It forms part of a four story brick structure, 137 × 100 feet, owned by the Hon. E. S. Converse. Colonel Harry E. Converse has given special attention to having the

Auditorium constructed on the most desirable and most modern principles, including provision for the comfort and safety of audiences. The seating capacity of the theater is 1700. In connection with the various gifts to the city by the Converse family in the past, the new theater provides Malden with more desirable public institutions of a desirable nature, perhaps, than any other rubber manufacturing town.

A LARGE PIECE OF CRUDE RUBBER.

THE Crude Rubber Co. (New York) have imported some very large specimens of crude rubber during the past few months. One of these, a ball of Islands fine Pará rubber, weighing 1120 pounds, was photographed recently, together with Mr. P. de Lacy Liebermann, treasurer of the company, and were it not that Mr. Liebermann is rather tall, he could hardly see over the piece of rubber. This rubber was not imported for exhibition purposes, but went at once into consumption.

PENNSYLVANIA RUBBER CO. (ERIE, PA.)

THERON R. PALMER, late of Akron, Ohio, has accepted the superintendency of this company, entering upon his new duties about May 21. The prominent position which Mr. Palmer has occupied with the B. F. Goodrich Co. for five years past, as superintendent of their tire department, has fitted him eminently for his new work. The Pennsylvania company have matured plans for additional buildings that will more than double their present extensive output, which has become necessary from the fact that they have lacked capacity for some time past to handle all the business offered them.

TRIBUTE TO THE LATE MAHLON C. MARTIN.

AT a meeting of the board of directors of the United States Rubber Co., held April 5, 1900, a committee, consisting of James B. Ford, George E. Weed, J. D. Vermeule, and Samuel P. Colt, was appointed to draft resolutions upon the death of Mr. Mahlon C. Martin, and thereupon said committee reported the adoption of the following resolutions, which were entered upon the minutes of the board of directors:

WHEREAS, Death has removed from among us one of our most respected and beloved directors, Mahlon C. Martin, of New Brunswick, N. J.; and

WHEREAS, Mr. Martin, after taking an active part in the organization of this company, has been on its board of directors since its organization, and a member of its executive committee each year, with one exception, since that time, and for four years its assistant treasurer; and

WHEREAS, He gave to this company at all times his most earnest, faithful efforts and services, being always loyal to its best interests, conservative—taking unlimited pains in the departments to which he specially devoted his attention. It is, therefore,

Resolved, That this board express the deep sorrow which all its members feel at the loss which they have sustained both individually and as a board, and the high appreciation which they had for Mr. Martin and for his important services to this company; and that his loss will be greatly felt not only by the officers, but by all employés of the company who came in contact with him and had an opportunity of appreciating his fairness, kindness, and uprightness.

Resolved, That these resolutions be spread upon the minutes of this board, and that a copy of them be sent to the family of Mr. Martin in token of our sympathy for them in their great bereavement.

NEW INCORPORATIONS.

RUBBER Tire Vehicle Equipment Co. (New York), under laws of the state of Washington, to make and sell rubber tires; capital, $500,000. Incorporators: E. C. Jacobson, H. A. Tabb, T. P. Howard, J. E. Heath, and E. Schmeelson. While news to this effect has been published, the secretary of state of Washington informs THE INDIA RUBBER WORLD that no such company has been incorporated in his office.

=Batavia Rubber Tire Co. (Batavia, N. Y.), April 26, under New York laws; capital, $50,000.

=National Electric Hose Signal Co. (Boston), April 24, under laws of Delaware, to manufacture hose couplings, electric batteries, etc.; capital, $150,000. Incorporators: J. P. Dunn, M. L. Drake, and L. L. Bowles, all of Boston.

=New York Rubber Tire Co., April 18, under laws of New Jersey, to make and sell wheels and tires; capital, $2000. Incorporators: John Crane, William A. MacMahon, and Paul W. A. MacMahon, all of No. 18 South street, New York.

=The Occidental Rubber Co. (San Francisco) May 9, under California laws, to sell rubber goods; capital, $50,000. Directors: E. C. Dailey, C. H. Greene, E. S. Isaacs, M. J. Lee, and C. F. Humphrey. The new business was alluded to in THE INDIA RUBBER WORLD last month, under the heading "New Rubber House in San Francisco." E. C. Dailey is manager of the company. Their headquarters are No. 35 New Montgomery street.

TRADE NEWS NOTES.

THE Riverside Rubber Co. (Belleville, N. J.) are erecting an additional building at Mill and Main streets, 200×175 feet, and two stories in height. Their plant is to be provided with electric lighting and power.

=The factory of the Goodyear Rubber Co., at Middletown, Conn., after having been closed for a few days for inventory and repairs, resumed work on May 14.

=A. F. Cox & Son have opened an exclusive rubber boot and shoe jobbing house at No. 275 Congress street, Boston. They will carry the Boston Rubber Shoe Co. and Hood Rubber Co. brands, and have also contracted for the Hood factory damaged and out of date goods.

=The India Rubber Co. (Akron, Ohio) have contracted to manufacture the rubber dressmakers' pneumatic fitting model, invented by Mrs. Ella M. Schrader, of Seattle, Wash., and described in THE INDIA RUBBER WORLD of May 1.

=The Hamilton, Brown Shoe Co. (St. Louis) are selling rubber boots and shoes made by the Monarch Rubber Co.

=The growing demand for tennis shoes is leading to an increase in the number of manufacturers. The Estabrook-Anderson Shoe Co. (Nashua, N. H.) are said to have made 5000 pairs daily last year, and will probably make as many this year. The Maynard Shoe Co. (Claremont, N. H.) are already large manufacturers.

=Edward E. Huber, representing the firm of Eberhard Faber, is one of the delegates appointed from the New York Credit Men's Association to the national conventionto be held at Milwaukee, Wis., on June 12–14. Mr. Huber is treasurer of the New York association.

=The Glendale Elastic Fabrics Co. (Easthampfon, Mass.) have let a contract for a five story addition to their mill, 110×50 feet.

=The New Haven Web Co. have appointed the American Mills Co., Nos. 43–45 Walker street, New York, selling agents for the entire production of their works. Archer J. Smith is treasurer of the latter corporation, and George Meier selling agent.

=Henry Schwalm and John McDonald, doing business as the Excelsior Waterproof Co., at Cleveland, Ohio, have made an assignment to J. A. Smith.

=Max Loewenthal, of the United Rubber Reclaiming Works, who is now in Europe, is expected to return home early in this month.

=Henry Smythe (New York), who does a great deal of expert work in rubber, in addition to his crude rubber and supply business, took a very practical way to fit himself for such work, by entering a large rubber mill and working in the compounding, mill and calender rooms until he had thoroughly mastered all of the details.

=The New Brunswick Flexigum Co., manufacturers of rubber substitutes, have outgrown their present quarters and have recently acquired a much larger factory at Menlo Park, N. J., where, with improved facilities, they hope to be able to supply the increasing demand for their product. It is being used successfully in many kinds of rubber goods abroad as well as in the United States. In their black substitute they control absolutely certain ingredients employed in its manufacture. Samples may be seen at their New York office, No. 127 Duane street.

=Exports of American rubber goods during April amounted in value to $175,736, against $153,334 in April, 1899. Exports for ten months of the fiscal year beginning July 1, 1899, amounted to $1,902,000, against $1,408,727 in the same period of the preceding fiscal year. The number of pairs of rubber boots and shoes exported during the ten months was 597,614, against 393,830 pairs in the corresponding ten months of 1898-99.

=A paragraph in the New York *Press* reads as follows: "GOOD MANAGEMENT—The credit man is a useful institution. Mr. Charles R. Flint's big rubber company is one of his most successful enterprises. The sales in the last season have been enormous, yet the loss by bad debts has been less than one-hundredth of 1 per cent. Where is there another business that can approach it? Incidentally it speaks well for the country." This would seem to be a good compliment for H. M. Sadler, Jr., who looks after the credits of the company, at their general offices in New York.

=Mr. C. K. Ogiwara, of the Oriental Rubber Manufacturing Co., of Tokiyo, Japan, was a recent visitor to the offices of THE INDIA RUBBER WORLD.

ANOTHER INDIANA RUBBER PLANTING COMPANY.

THE Indiana Rubber Co. have been incorporated, under the laws of Nevada, with $1,000,000 capital, to acquire 10,000 acres of land in Costa Rica, and engage in the planting of rubber. The company's headquarters are at Goshen, Ind., and the officers are Irwin J. Becknell, president; Clark Bruce, general manager; and L. M. Latta, secretary. The company's operations are based upon the plans of Lester C. Singer, who has had some experience in rubber planting, and who becomes assistant manager of the company. A certain amount of stock is offered to the public.

A NEW CANADIAN CATALOGUE.

THE catalogue and price list of rubber boots and shoes issued for 1900-01 by The Maple Leaf Rubber Co., Limited (formerly the Toronto Rubber Shoe Manufacturing Co.), covers a very full line, and is attractively illustrated. Their first grade goods are branded with the maple leaf, the Canadian national emblem; second grade goods are marked "Toronto." [2½"×5⅞". 64 pages.] The company issue, separately, a neatly covered price list, of 12 pages. Their light goods are packed in cases of 25 pairs: boots and other heavy goods in cases of 12 pairs. The average width of shoe soles is less than in the United States.

REVIEW OF THE APPROVED RUBBER MARKET.

THE feature of the market during the past month has been a considerable decline in prices, the effect of which remains to be determined. Neither buyers nor sellers seem to consider the present range of prices likely to be long continued. Sellers base their conclusions upon the fact that the Pará crop season is now at an end, and also that the manufacturers have been less active of late than during most of last year, and in consequence have been buying on a smaller scale than the normal. An increased activity in manufacturing would lead to a stronger demand for rubber, particularly as factory stocks are not believed to be large. Manufacturers appear to give weight to the same considerations, and while they would be pleased of course to see Pará rubber remain permanently below the dollar level, they doubtless will not be surprised to see a return to former price conditions.

The decline in the rate of buying on the part of American manufacturers has been especially evident in the Antwerp market, one result of which has been an exceptional accumulation of stocks in that port. When it is taken into consideration also that the output from the Congo rubber country is steadily increasing, it may happen that the prices of grades from that source may not for a good while to come return to the level of prices for Africans for the past year. This is a condition, however, which does not apply to the Pará rubber market, where the receipts increase slowly year by year, and where most of the available stocks are speedily bought up. By the way, the prices at which some stocks in Pará, are reported to have been bought of late render it unlikely that sellers will be disposed to unload their holdings at prevailing quotations except under extreme pressure.

Imports of crude rubber into the United States during the present fiscal year have been a little less in quantity than during the corresponding period of last year—when all records were broken—but not less in value. The government statistics show the following figures for crude India-rubber and Gutta-percha, in pounds and value, for periods of ten months ending April 30 in each year:

1898	41,218,564	pounds, worth	$22,345,358
1899	45,191,018	" "	27,800,695
1900	43,375,186	" "	27,870,326

Quotations in the New York market May 29th were:

PARÁ.		AFRICAN.	
Islands, fine, new	88 @89	Tongues	57 @58
Islands, fine, old	90 @91	Sierra Leone	70 @72
Upriver, fine, new	91 @ 92	Benguella	59 @60
Upriver, fine, old	94 @95	Congo ball	58 @59
Islands, coarse, new	48 @49	Cameroon ball	58 @59
Islands, coarse, old	none here	Flake and lumps	45 @46
Upriver, coarse, new	65 @66	Accra flake	20 @21
Upriver, coarse, old	68 @70	Accra buttons	60 @61
Caucho (Peruvian) sheet	47 @48	Accra strips	63 @65
Caucho (Peruvian) strip	none imported now.	Lagos buttons	59 @60
Caucho (Peruvian) ball	59 @60	Lagos strips	60 @61
CENTRALS.		Liberian flake	@
Esmeralda, sausage	66 @67	Madagascar, pinky	@
Guayaquil, strip	52 @53	Madagascar, black	@
Nicaragua, scrap	63 @64	GUTTA-PERCHA.	
Mangabeira, sheet	56 @57	Fine grade	1.75
EAST INDIAN.		Medium	1.45
Assam	78 @81	Hard white	1.20
Borneo	36 @50	Lower sorts	65
		Balata	

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine	7$600	Upriver, fine	8$550
Islands, coarse	2$800	Upriver, coarse	4$950

Exchange 9*d*.

NEW YORK RUBBER PRICES FOR APRIL. (NEW RUBBER.)

	1900.	1899.	1898.
Upriver fine	98 @1.02	1.00 @1.03	92½@95
Upriver coarse	73 @ 76	85 @ 88	74 @75
Islands fine	96½@ 99	1.00 @1.03	91½@93
Islands coarse	57½@ 60	69 @ 73	62½@64
Cametá coarse	63 @ 65	72 @ 74	68 @70

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.

	Fine and Medium.	Coarse.	Totals. 1900.	Totals. 1899.	Totals. 1898.
Stocks, March 31	563	77 =	640	492	472
Arrivals, April	565	296 =	861	762	516
Aggregating	1128	373 =	1501	1254	988
Deliveries, April	384	267 =	651	718	666
Stocks, April 30	744	106 =	850	536	322

	PARÁ.			ENGLAND.		
	1900.	1899.	1898.	1900.	1899.	1898.
Stocks, March 31	1030	1230	385	449	900	995
Arrivals, April	1600	1520	1240	2046	685	715
Aggregating	2630	2750	1625	2495	1585	1710
Deliveries, April	1840	2180	1455	625	700	800
Stocks, April 30	790	570	170	1870	885	910

	1900.	1899.	1898.
World's supply, April 30 (excluding Caucho)	4392	3106	3543
Pará receipts, July 1 to April 30	23,450	22,885	21,365
Afloat from Pará to United States, April 30	333	106	
Afloat from Pará to Europe, April 30	549	1009	
Afloat from United States to Europe, April 30			

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York), advises us:

"During May the money market has continued easy, with a good demand for paper, more especially from out of town banks, and the best rubber notes, single and double names, have been taken readily at 4@5 per cent., and those not so well known at 5@6 per cent."

THE MAY SALES AT ANTWERP.

THE sale by inscription on May 17 was weak. Of 390 tons offered, only 186 found buyers. Prices showed a decline of 3 per cent. on the last sale preceding. Loporis especially were neglected, and are to be had at 5 to 6 per cent. below broker's estimations. Of 183 tons Loporis, only 24 tons were sold, but the greater part of the unsold quantity had been damaged by submersion in the Congo river, rendering it difficult to fix the value. American orders were very light. Advices dated May 18 stated the amount of stocks at Antwerp at 765 tons.

PARA.

KANTHACK & CO. report [May 5]: "Although the demand has not shown much spirit, and has manifested itself chiefly in fitful transactions, it has evidently improved, and as stocks in first hands are gradually diminishing, there seems to be a fair chance of its early development into a more general and sustained movement. A great obstacle to operations on a more extensive scale has lately proved the advancing rate of exchange. A decline would ease the situation considerably and have the effect of soon galvanizing the present languid and undecided condition of the market into activity. Holders by maintaining their currency prices continue to be firm, and the fact of small supplies and decreasing stocks serves to infuse fresh strength into their attitude."

LONDON.

JACKSON & TILL, under date of May 2 report:

		1900.	1899.	1898.
LONDON	Pará (English tons)	—	1	1
	Borneo	128	72	50
	Assam and Rangoon	21	32	8
	Other sorts	456	385	280
	Total	605	490	339
LIVERPOOL	Pará	1880	890	904
	Other sorts	1467	749	485
Total, United Kingdom		3952	2129	1728

PRICES PAID DURING MARCH.

	1900.	1899.	1898.
Pará fine	4/1¾@4/3	4/2¾@4/5	3/10¾@3/11
Negroheads, Islands	2/4½@2/5	2/10	2/7 @2/7½
Negroheads, scrappy	3/1½	3/5½	3/1 @3/1¼
Bolivian	4/3	4/3 @4/5	@3/11¼

LIVERPOOL.

WILLIAM WRIGHT & CO. report [May 1]: "During the early part of the month the demand was dull, and prices declined a further 2*d*. per pound; later, owing to strong Pará news and the firmness of holders here, prices recovered, and the market closes firm at 4*s*. 3*d*. for spot, and very little offering. A good business done for delivery, but mostly in the way of exchange, sellers accepting 4*s*. 1½*d*. for April–May and May–June, and buying June–July at ½*d*. premium. There are buyers forward at 4*s*. 3½*d*., but in present position of affairs sellers will not quote. Our own opinion is that this advance will be permanent; that later on we shall see higher prices; stocks in Europe may be large, but as far as we can ascertain they are well held, and the probabilities are that the Americans will have to buy their surplus requirements on this side. In Pará price is equal to 4*s*. 5*d*. laid down here, with rather buyers than sellers at the price."

J. J. Fischer & Co., Limited (Liverpool), reported stocks in that market as follows:

	January 31.	Feb'y 28.	March 31.	April 30.
Pará: Fine	193 tons	228 tons	894 tons	1303 tons
Medium	65 "	47 "	114 "	181 "
Negroheads	199 "	194 "	353 "	492 "
African	500 "	595 "	663 "	898 "
Peruvian	16 "	46 "	210 "	206 "
Mangabeira	242 pkgs	256 pkgs	44 pkgs	96 pkgs
Pernambuco	10 "	70 "	25 "	25 "
Ceará	783 "	1209 "	1619 "	1311 "
Manicoba	1314 "	1485 "	697 "	646 "
Assaré	10 "	29 "	106 "	30 "

ANTWERP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's sale by inscription prices were very irregular. Whereas some of the qualities, such as Mongallas, were sold up to 5 per cent. above valuation, others, like Congo Uellé and Aruwimi, found buyers at about 1 per cent. under valuation. However, the demand seems somewhat better, and prices paid show little difference from those of the sale of March 30. The transactions amounted to:

	Offered.	Sold.
Congo sorts	kilos 129,984	102,289
Other sorts	" 23,080	.....
Total	153,064	102,289

At the next sale by inscription, at the end of May, about 470 tons will be exposed. The steamer *Anversville* arrived yesterday from the Congo with the following consignments:

Domaine prive	67,000 kilos.
Société Anversoise	25,000 "
Société La Djuma	6,000 "
Société A B I R	29,000 "

Comptoir Commercial Congolais	6,000	kilos
Végétaux du Kassai	6,000	"
Société du Haut Congo	10,000	"
Société Belgika	9,000	"
Total	158,000	"

Total stocks here April 24, 697,200 kilograms.

C. SCHMID & CO.

Antwerp, April 25, 1900.

ANTWERP RUBBER STATISTICS FOR APRIL.

DETAILS.	1900.	1899.	1898.	1897.	1896.
Stocks, Mch. 31. kilos	735,060	253,569	178,564	119,011	53,996
Arrivals in April	507,911	447,919	173,757	147,966	29,647
Aggregating	1,242,971	701,488	352,321	266,977	83,643
Sales in April	421,151	180,185	166,075	121,509	43,975
Stocks, April 30	821,820	521,303	186,246	145,468	39,668
Arrivals since Jan. 1	2,284,225	1,209,864	661,601	466,749	184,852
Sales since January 1	1,754,396	951,901	569,818	460,910	234,038

The steamer *Albertville* arrived from the Congo on May 5, having on board 114,332 kilograms of rubber.

IMPORTS FROM PARA AT NEW YORK.

[*All Figures Denote Pounds.*]

April 30.—By the steamer *Fluminense*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	68,500	35,800	65,800	6,400=	179,500
Crude Rubber Co.	41,100	5,300	15,200	33,600=	93,200
Reimers & Co.	6,800	700	75,300	.....=	82,800
Albert T. Morse & Co.	34,600	7,200	13,900	.....=	55,700
Boston Rubber Shoe Co.	25,300	5,000	3,900	. ...=	34,200
G. Amsinck & Co.	12,100	700	1,300	.....=	14,100
Total	187,400	53,700	178,400	40,000=	459,500

May 14.—By the steamer *Amazonense*, from Manáos and Pará:

Crude Rubber Co.	163,900	30,200	57,500	10,400=	262,000
Reimers & Co.	74,800	14,100	63,100	35,400=	187,400
New York Commercial Co.	40,500	11,300	42,600	400=	94,800
Boston Rubber Shoe Co.	28,200	9,300	11,000	5,800=	54,300
Albert T. Morse & Co.	15,400	5,300	28,500	2,900=	52,100
Hagemeyer & Brunn	24,300	4,300	2,800	....=	31,400
Kundhardt & Co.	10,000	10,700	300	.... =	21,000
Lawrence Johnson & Co.	12,000	1,000	5,100	.....=	18,100
William Wright & Co.	8,100	1,600	800	.....=	10,500
George G. Cowl	3,900	700	2,300	3,700=	10,600
Edmund Reeks & Co.	1,900	200	6,800	.....=	8,900
Otto G. Mayer & Co.	.....	.....	1,900	.....=	1,900
G. Amsinck & Co.	1,700	.....	.....	.....=	1,700
Total	384,700	88,700	222,700	58,600=	754,700

May 17.—By the steamer *Bernard*, from Manáos and Pará:

Crude Rubber Co.	132,000	20,100	28,500	1,900=	182,500
Reimers & Co.	68,900	16,100	42,200	27,500=	154,700
Albert T. Morse & Co.	27,900	5,400	38,900	20,500=	92,700
New York Commercial Co.	34,000	5,100	23,500	6,500=	69,100
Boston Rubber Shoe Co.	16,400	700	4,000	. ..=	21,100
Hagemeyer & Brunn	.....	.....	.....	16,800=	16,800
William Wright & Co.	.....	.....	.....	9,400=	9,400
Edmund Reeks & Co	4,100	400	1,300	700=	6,500
Otto G. Mayer & Co.	.....	....	7,000	.....=	7,000
Total	283,300	47,800	145,400	83,300=	559,800

[NOTE.—The steamer *Gregory*, from Pará and Manáos, with 280 tons of rubber on board, was due at New York, on May 30.]

PARA RUBBER VIA EUROPE.

APRIL 28.—By the *Lucania*=Liverpool:

	POUNDS.	
William Wright & Co. (Coarse)		22,800

MAY 7.—By the *Etruria*=Liverpool:

Reimers & Co. (Caucho)	5,500	
Joseph Cantor (Coarse)	11,000	16,500

MAY 14.—By the *Campania*=Liverpool:

Reimers & Co. (Coarse)		1,200

MAY 16.—By the *Teutonic*=Liverpool:

Otto G. Mayer & Co. (Coarse)		11,000

MAY 22.—By the *Ivernia*=Liverpool:

George A. Alden & Co. (Fine)	22,500	
Crude Rubber Co. (Coarse)	5,000	
George A. Alden & Co. (Coarse)	5,000	32,500

CENTRALS.

APRIL 25.—By the *Athos*=Colon:

	POUNDS.	
G. Amsinck & Co.	5,900	
Crude Rubber Co.	2,600	
Flint, Eddy & Co.	2,500	
Czarnikow, McDougal & Co.	2,100	
Isaac Brandon & Bros	1,900	
Lawrence Johnson & Co.	1,100	
Eggers & Heinlein	800	
W. Loaiza & Co.	400	
W. R. Grace & Co.	300	
Piza Nephews & Co	200	
A. N. Rotholz	200	18,000

APRIL 27.—By *El Paso*=New Orleans:

W. R. Grace & Co	3,500	
A. N. Rotholz & Co.	3,000	
Eggers & Heinlein	500	7,000

APRIL 28.—By the *Matanzas*=Mexico:

H. Marquardt & Co	1,500	
L. N. Chemedlin & Co.	200	1,700

APRIL 28.—By the *Lucania*=Liverpool:

Reimers & Co.		6,000

APRIL 28.—By the *Origen*=Belize.

F. Halberstedt & Co.	2,500	
Harburger & Stack	1,500	
Eggers & Heinlein	1,700	5,700

APRIL 30.—By the *Seguranca*=Mexico:

E. Steiger & Co	4,000	
H. W. Peabody & Co.	2,500	
F. Probst & Co.	1,500	
Tibbals & Blossom	1,000	9,000

MAY 1.—By the *Alleghany*=Savanilla:

Kunhardt & Co	1,000	
S. Samper & Co.	200	
D. A. De Lima & Co	500	
For Europe	2,300	4,000

MAY 1.—By *El Dorado*=New Orleans:

Albert T. Morse & Co.	5,000	
A. N. Rotholz	1,200	
W. R. Grace & Co.	1,300	
Eggers & Heinlein	1,500	9,000

MAY 2.—By the *Alliance*=Colon:

Dumarest & Co	4,300	
G. Amsinck & Co.	3,800	
Isaac Brandon & Bros.	2,400	
A. P. Strout	1,900	
D. A. De Lima & Co.	1,500	
J. B. Sageman	1,300	
Lanman & Kemp	1,100	
A. Santos & Co.	800	
W. Loaiza & Co	800	
Roldan & Van Sickel	600	
Jimenez & Escobar	400	
Scott & Bowne	100	19,000

MAY 2.—By *El Cid*=New Orleans:

A. T. Morse & Co.		5,000

MAY 2.—By the *Niagara*=Mexico:

H. Marquardt & Co	4,500	
H. W. Peabody & Co	200	4,700

MAY 4.—By the *Patricia*=Hamburg:

Reimers & Co.		15,000

MAY 5.—By the *Carib*—Truxillo:

Eggers & Heinlein	10,500	
H. W. Peabody & Co.	4,000	14,500

MAY 5.—By *El Rio*=New Orleans:

W. R. Grace & Co.		2,000

MAY 7.—By the *Yucatan*=Mexico:

Graham, Hinckley & Co.	1,500	
E. Steiger & Co.	1,000	2,500

MAY 7.—By the *Etruria*=Liverpool:

Reimers & Co		13,600

MAY 7.—By the *New York*=Southampton:

Reimers & Co.		5,800

MAY 7.—By the *Coleridge*=Bahia:

J. H. Rossback & Bros		9,000

MAY 7.—By the *Altai*=Greytown:

D. A. De Lima & Co.	7,000	
Kunhardt & Co.	4,000	
G. Amsinck & Co.	2,500	
A. P. Strout	3,000	
Andreas & Co.	1,500	
Guiterman, Rosenfeld & Co.	1,000	19,000

MAY 9.—By the *Advance*=Colon:

Isaac Brandon & Bros.	3,700	
Piza Nephews & Co.	2,700	
Lanman & Kemp	1,500	
W. Loaiza & Co.	1,200	
D. N. Carrington & Co.	900	
R. F. Cornwell	500	10,500

MAY 12.—By *El Mar*=New Orleans:

Albert T. Morse & Co.	3,000	
A. N. Rotholz	2,000	
A. Adler & Co.	1,500	6,500

MAY 14.—By the *Campania*=Liverpool:

George A. Alden & Co.	3,000	
Crude Rubber Co.	3,000	6,000

MAY. 14.—By the *St. Paul*=Southampton:

Otto G. Mayer & Co.		9,300

MAY 14.—By the *Vigilancia*=Mexico:

H. Marquardt & Co.	7,000	
Graham, Hinckley & Co.	2,500	
F. Probst & Co	2,000	
E. Steiger & Co	1,500	
Tibbals & Blossom	2,000	
H. W. Peabody & Co	1,500	
Thebaud Brothers	1,000	
P. Harmony Nephews & Co	500	18,000

MAY 15.—By the *Adirondack*=Savanilla:

G. Amsinck & Co.	2,500	
John Boyd, Jr., & Co	600	
Guiterman, Rosenfeld & Co.	700	
For Europe	4,000	7,800

MAY 17.—By the *Erna*=Cape Gracias:

Eggers & Heinlein	10,000	
G. Amsinck & Co	1,500	
Harburger & Stack	1,000	
For Europe	500	13,000

MAY 16.—By the *Finance*=Colon:

Crude Rubber Co.	2,100	
Kunhardt & Co.	2,700	
L. Johnson & Co.	1,800	
Ellinger Bros	1,600	
F. Nieto & Co.	500	
Flint, Eddy & Co	200	
Middleton & Co.	100	8,800

MAY 16.—By the *Teutonic*=Liverpool:

Reimers & Co		7,000

MAY 21.—By the *Orizaba*=Mexico:

H. Marquardt & Co.	2,500	
E. Steiger & Co.	1,500	4,000

MAY 21.—By the *Comus*=New Orleans:

W. R. Grace & Co	11,000	
Albert T. Morse & Co.	8,000	19,000

MAY 21.—By the *Alene*=Savanilla, etc.:

Kunhardt & Co	10,000	
J. Veugoechea & Co	3,500	
A. P. Strout	8,500	
Andreas & Co	1,000	
G. Amsinck & Co	500	
Ellinger Bros	500	
Jimenez & Escobar	500	
Roldan & Van Sickel	500	
Munoz & Espriella	300	25,300

MAY 23.—By the *Athos*=Colon:

Hirzel, Feltman & Co	12,800	
Flint, Eddy & Co	12,000	
Lawrence Johnson & Co	5,200	
Dumarest & Co	3,300	
Isaac Brandon & Bros	2,300	
W. R. Grace & Co	2,000	
Frame, Alston & Co	700	
D. A. De Lima & Co	500	38,800

AFRICANS.

	POUNDS.	
APRIL 24.—By the *Ivernia*=Liverpool:		
George A. Alden Co	8,500	
Crude Rubber Co	6,000	14,500
APRIL 25.—By the *Borderer*=Lisbon:		
Reimers & Co		91,000
APRIL 27.—By the *Lucania*=Liverpool:		
George A. Alden & Co	35,600	
Crude Rubber Co	20,000	
Otto G. Mayer & Co	22,000	77,000
APRIL 30.—By the *Batavia*=Hamburg:		
A. T. Morse & Co		22,500
MAY 4.—By the *Patricia*=Hamburg:		
Livesey & Co	5,000	
Reimers & Co	2,000	7,000
MAY 7.—By the *Etruria*=Liverpool:		
George A. Alden & Co	30,000	
Crude Rubber Co	17,000	
Reimers & Co	10,000	
William Wright & Co	13,500	
Livesey & Co	8,000	78,500
MAY 9.—By the *Cevic*=Liverpool:		
William Wright & Co	22,500	
Livesey & Co	7,000	29,500
MAY 9.—By the *Southwark*=Antwerp:		
George A. Alden & Co	61,000	
Crude Rubber Co	60,600	
Reimers & Co	30,000	
Otto G. Mayer & Co	12,000	163,000
MAY 10.—By the *Oceanic*=Liverpool:		
Otto G. Mayer & Co	20,000	
Livesey & Co	18,000	
Reimers & Co	12,000	
William Wright & Co	11,500	
George A. Alden & Co	5,000	
Crude Rubber Co	5,000	71,500
MAY 14.—By the *Campania*=Liverpool:		
Reimers & Co	25,000	
Livesey & Co	3,000	28,000
MAY 15.—By the *Philadelphian*=Liverpool:		
George A. Alden & Co	17,000	
Crude Rubber Co	17,000	34,000
MAY 16.—By the *Westernland*=Antwerp:		
George A. Alden & Co	42,000	
Crude Rubber Co	40,000	82,000
MAY 16.—By the *Teutonic*=Liverpool:		
Reimers & Co	11,000	
William Wright & Co	3,000	14,000
MAY 18.—By the *Phœnicia*=Hamburg:		
Reimers & Co		18,000
MAY 19.—By the *British Queen*=Antwerp:		
William Wright & Co		10,000
MAY 21.—By the *St. Louis*=Southampton:		
H. H. Smythe		9,000
MAY 23.—By the *Ivernia*=Liverpool:		
Livesey & Co		7,500
MAY 23.—By the *Kensington*=Antwerp:		
George A. Alden & Co	27,000	
Crude Rubber Co	27,000	
A. T. Morse & Co	2,000	56,000

EAST INDIAN.

	POUNDS.	
APRIL 27.—By the *Queen Eleanor*=Singapore:		
J. W. Greene & Co	31,000	
D. P. Cruikshank	11,000	42,000
APRIL 30.—By the *St. Louis*=Southampton:		
Reimers & Co		7,000
MAY 4.—By the *Patricia*=Hamburg:		
Livesey & Co		16,000
MAY 5.—By the *Oracle*=Calcutta:		
George A. Alden & Co	9,500	
Reimers & Co	5,000	
Gutta Percha and Rubber Mfg. Co.	1,000	15,500
MAY 10.—By the *Candleshoe*=Calcutta:		
George A. Alden & Co	11,000	
Reimers & Co	6,000	17,000
MAY 14.—By the *Graf Waldersee*=Hamburg:		
Livesey & Co		10,000
MAY 22.—By the *Cufic*=Liverpool:		
Reimers & Co		11,000
MAY 23.—By the *Morven*=Singapore:		
Reimers & Co	32,000	
Reimers & Co. (Pontianak)	110,000	
Otto G. Mayer & Co. (Pontianak)	110,000	
A. Soltau & Co. (Pontianak)	45,000	297,000

GUTTA-PERCHA AND BALATA.

	POUNDS.	
APRIL 24.—By the *Marquette*=London:		
R. Soltau & Co		11,000
APRIL 30.—By the *Mesaba*=London:		
Lamb Manufacturing Co.		2,500
MAY 7.—By the *New York*=Southampton:		
H. H. Smythe		11,000
MAY 7.—By the *Rotterdam*=Rotterdam:		
Earle Brothers		2,000
MAY 10.—By the *Manilon*=London:		
Lamb Mfg. Co		2,500
MAY 22.—By the *Cufic*=Liverpool:		
H. H. Smythe		2,500

BALATA.

APRIL 24.—By the *Marquette*=London:		
Earle Brothers		11,000
MAY 18.—By the *Maravel*=Trinidad:		
Flint, Eddy & Co		1,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—APRIL.

Imports:	POUNDS.	VALUE.
India-rubber	3,337,806	$1,992,093
Gutta-percha	87,695	20,428
Gutta-jelatong (Pontianak)	810,744	21,308
Total	4,236,247	$2,033,829
Exports:		
India-rubber	31,740	$20,508
Balata	2,100	945
Reclaimed rubber	193,974	27,846
Rubber Scrap Imported	878,478	$60,776

[Average price per pound, 6.9 cents; average price per pound in March, 5.41 cents.]

BOSTON ARRIVALS.

	POUNDS.	
APRIL 5.—By the *Georgian*=Liverpool:		
Otto G. Mayer & Co.—Africans	6,866	
Reimers & Co.—Africans	13,245	
	18	20 129
APRIL 11.—By the *Sachem*=Liverpool:		
Crude Rubber Co.—Centrals	13,000	
Crude Rubber Co.—Africans	6,911	
Livesey & Co.—Africans	5,321	
George A. Alden & Co.—Centrals	14,000	
George A. Alden & Co.—Africans	23,429	62,661

[NOTE—The arrivals by this steamer contained 89 bales of rubber waste, amounting to 20,416 pounds, erroneously included in the custom house statistics as crude rubber.]

APRIL 16.—By the *Michigan*=Liverpool:		
Reimers & Co.—Africans		27,619
APRIL 21.—By the *New England*=Liverpool:		
George A. Alden & Co.—Africans		5,788
APRIL 22.—By the *Sagamore*=Liverpool:		
Otto G. Mayer & Co.—Africans	13,966	
Livesey & Co—Africans	11,235	25,201

	POUNDS.	VALUE.
Total, January	105,946	$89 329
Total, February	109,763	65,290
Total, March	81,489	55 950
Total, April	141,398	90,697

APRIL EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS.)

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co	58,377	10,792	81,754	12,600	163,523	195.436	47.311	64.273	1.500	308,520	472,043
Adelbert H. Alden	93,044	25,152	66,790	3,671	188,657	51,670	7,999	13,506	118	73,293	261,950
Frank da Costa & Co	80.450	19,362	42,456	8,320	150,588	17,492	3,026	31,831	10,650	62,999	213,587
The Sears Pará Rubber Co	76,049	10 956	28,278	22,011	137,294	—	—	—	—	—	137,294
Rudolf Zietz	103	1,914	1,566	—	3,583	41.455	3,739	15,408	—	60,602	64,185
H. A. Astlett	28,196	3,648	7,372	—	39,216	—	—	—	—	—	39,216
R. Suarez & Co	—	—	—	—	—	21,374	7,004	6,427	—	34.805	34,805
B. A. Antunes Co	—	—	—	—	—	16,429	2 984	5,325	661	25.399	25,399
Comptoir Colonial Française	—	—	—	—	—	10,644	1,550	4,847	673	17.714	17,714
Kanthack & Co	3.847	751	418	—	5,016	1,440	160	300	—	1,900	6,916
Singlehurst, Brocklehurst & Co	—	—	—	—	—	1,170	206	724	—	2,100	2,100
Direct from Iquitos	—	—	—	—	—	14.523	605	46,895	3,301	65,324	65,324
Direct from Manáos	73,958	28,051	40,737	16,199	158,945	95 888	24,842	87,461	51,457	259,648	418,593
Total for April	414,024	100,626	269,371	62,801	846,822	467,621	99,426	276,997	68,360	912,304	1,759,126
Total for March	807,100	133,973	367,351	177,528	1,485,952	1,345,044	281,043	688,701	363,818	2,678,606	4,164,558
Total for February	784,893	158,029	414,034	119,914	1,476,870	1,052,837	227,124	399,964	208,270	1,888,195	3,365,065

Cable Address, "Guttaperch, Toronto."

Codes: A. 1. 1888 Edition. A.B.C. 4th Edition. Directory. Liebers. Private.

CANADA.

Factories: 115-165 West Lodge Ave. / 124-148 O'Hara Ave. } Toronto.

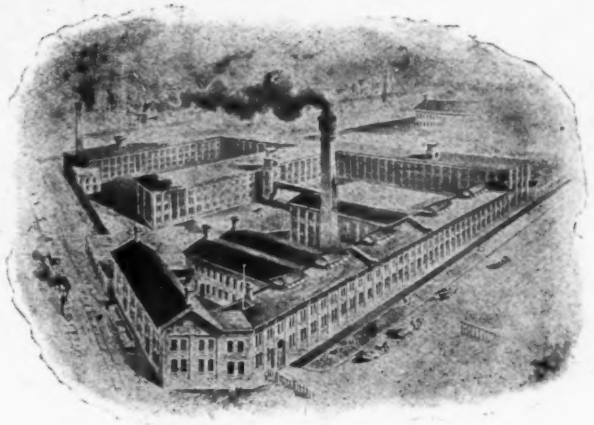
THE GUTTA PERCHA & RUBBER M'F'G CO. OF TORONTO LIMITED — TRADE MARK

H. D. WARREN, PRES. & TREAS.
C. N. CANDEE, SECY.

Sole Manufacturers in Canada of

Kelly-Springfield Solid Carriage Tires
"Maltese Cross" Carbolized Rubber Fire and Suction Hose.
"Eureka," "Paragon" and other High Grades of Cotton Fire Hose.
"Goodrich" and **"Hartford"** Single Tube Bicycle Tires.

WE make a *SPECIALTY OF MANUFACTURING FOR THE CANADIAN MARKET*, Rubber Goods *FOR THE HOLDERS OF CANADIAN PATENTS*, and solicit correspondence with Rubber Manufacturers who desire to have their specialties made in Canada.



MANUFACTURERS OF

MECHANICAL RUBBER GOODS
RUBBER INSULATING COMPOUNDS
BELTING - MATTING - CLOTHING
PACKING - VALVES - TUBING -
HOSE - CARRIAGE CLOTHS -

"Maltese Cross" & "Lion" Rubber Boots & Shoes.

THE GUTTA PERCHA & RUBBER MFG. CO. OF TORONTO, LTD.

49-61-63 WEST FRONT STREET, TORONTO, ONTARIO, CANADA.

= = THE = =

GRANBY RUBBER CO.

HIGHEST GRADE

RUBBER BOOTS, SHOES, AND CLOTHING.

Factories: GRANBY, QUEBEC.

S. H. C. MINER, President,
J. H. McKECHNIE, Gen'l Mgr.

Mention The India Rubber World when you write.

THE CANADIAN RUBBER COMPANY OF MONTREAL.

CAPITAL - - $1,500,000.

OFFICES AND WAREROOMS:

333 ST. PAUL STREET, MONTREAL, CANADA.

- - - Manufacturers of - - -

Rubber Boots and Shoes, Belting, Packing, Hose, Carriage Cloth, Wringer Rolls, Etc.

Mention The India Rubber World when you write.

We claim the following merits for **JENKINS BROS.' VALVES.**

1. Manufactured of the Best Steam Metal.
2. No regrinding, therefore not constantly wearing out the seat of the Valves.
3. Contain JENKINS DISC, which is suitable for all Pressures of Steam, Oil, and Acids.
4. The Easiest Repaired, and all parts Interchangeable.
5. Every Valve Tested before leaving the factory.
6. ALL GENUINE stamped with Trade Mark.

JENKINS BROTHERS, New York, Philadelphia, Chicago, Boston.

Mention The India Rubber World when you write.

Dixon's Silica-Graphite Paint

Roofs and iron work properly painted have not required repainting in ten to twenty years. Time only can prove the value of a paint, and Dixon's Silica-Graphite Paint is the ONLY graphite paint with a satisfactory time record.

For convincing evidence, address

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

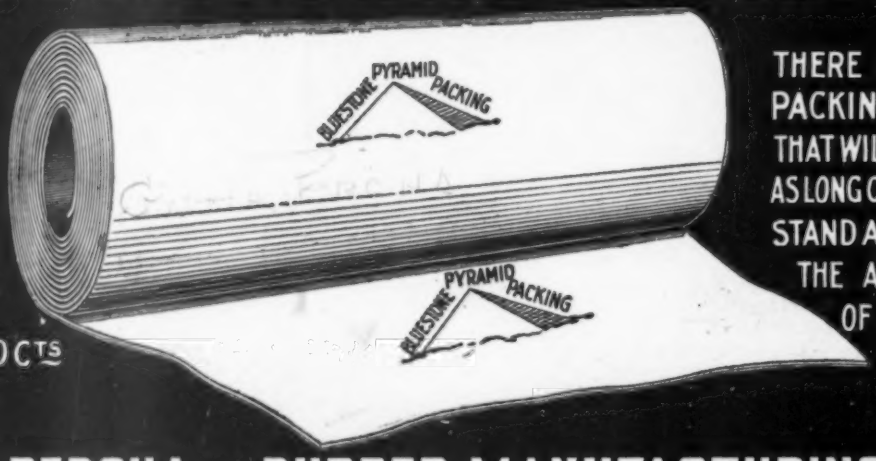
Mention The India Rubber World when you write.

PYRAMID BRAND
BLUESTONE
HIGH PRESSURE PACKING

FOR STEAM HOT OR COLD WATER AND AIR

PACKS EQUALLY WELL FOR ALL

PRICE PER LB. 80 CTS



THERE IS NO PACKING MADE THAT WILL LAST AS LONG OR WITHSTAND AS WELL THE ACTION OF STEAM HEAT

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO.

NEW YORK 126-128 DUANE ST. | CHICAGO 96-98 LAKE ST. | SAN FRANCISCO 30-32 FREMONT ST. | BOSTON 71 PEARL ST. | PHILADELPHIA, PA. 221 CHESTNUT ST.

Up to date FACTORY,
Up to date PATTERNS,
Up to date GOODS.

The HOOD RUBBER COMPANY'S factory is up to date in every particular.

HOOD RUBBERS are the best in the market in every essential quality—fit, style, wear.

Hood Rubber Co.
Boston.

Mention the India Rubber World when you write.

TYRIAN
DRUGGISTS' RUBBER GOODS.

Fountain and Bulb Syringes,
Water Bottles, Atomizers,
Air Cushions, Urinals, Nipples,
Nursing Bottles, etc., etc.

MOULD WORK A SPECIALTY.

Our Goods are Warranted.

TYER RUBBER COMPANY,
Andover, Mass.

Mention The India Rubber World when you write.